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¹ TIME AND TRANSITION IN WORK TEAMS:
₃ TOWARD A NEW MODEL OF GROUP DEVELOPMENT,

by

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TIME AND TRANSITIONS IN WORK TEAMS: TOWARDS A NEW MODEL OF GROUP DEVELOPMENT*

ABSTRACT

This study of the complete life spans of eight naturally-occurring teams began with the unexpected finding that that several project groups (studied in depth for another purpose) did not accomplish their work by progressing gradually through a universal series of stages as predicted by traditional group development models. Instead, teams progressed in a pattern of "punctuated equilibrium": i.e. through an alternation of inertia and revolution in the behaviors and themes through which they approached their work. The findings suggested, further, that groups' progress was triggered more by members' awareness of time and deadlines than by the completion of any absolute amount of work in any specific developmental stage. The paper proposes a new model of group development that encompasses the timing and mechanisms of change, as well as groups' dynamic relations with their contexts. Implications for theory, research, and practice are drawn.

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Groups are essential management tools. We use teams to put novel combinations of people to work on novel problems; we use committees to deal with especially critical decisions; indeed, organizations largely consist of permanent and temporary groups (Huse & Cummings, 1985). Given the importance of group management, there is a curious gap in our employment of existing knowledge. For years, researchers studying group development—the path a group takes over its lifespan, toward the accomplishment of its main task(s)—have reported that groups change predictably over time. This suggests that, to understand what makes groups work effectively, both theorists and managers ought to take change over time into account. However, little group-effectiveness research has done so (McGrath, 1986).

One reason for this gap may lie in what we don't know about group development. Traditional models shed little light on the triggers or mechanisms of change, or on the role of the group's environment in its development—areas of key importance to group effectiveness (Gladstein, 1984; Goodstein & Dovico, 1979; McGrath, 1986). This hypothesis-generating paper, stimulated by an unexpected set of empirical findings, proposes a new way to conceptualize group development. It is based on a different paradigm of change than the paradigm that underlies traditional models, and it addresses the timing and mechanisms of change, as well as groups' dynamic relations with their environments. Traditional models.

There have been two main streams of research and theory about group development. The first stream deals with group dynamics, the other with phases in group problem solving. Group dynamics research on development began in the late 1940's, with a focus on the psychosocial and emotional aspects of group life. Working primarily with therapy groups, T-groups, and self-study groups, these researchers originally saw the group's task in terms of the achievement of

personal and interpersonal goals such as insight, learning, or honest communication (Mills, 1979). They explored development as the progress, over groups' life span, of members' ability to handle issues such as dependency, control, and intimacy, seen as critical to their ability to work (Bennis & Shephard, 1956; Bion, 1961; Slater, 1966; Mann, Gibbard & Hartman, 1967).

In 1965, Tuckman synthesized this literature in a model of group development as a unitary sequence (the same for every group) that is frequently cited today: forming, storming, norming, performing. Tuckman and Jensen's 1977 update on the literature left this model in place, except for the addition of a final stage, "adjourning." Models proposed subsequently have also kept the same pattern: e.g. define the situation, develop new skills, develop appropriate roles, carry out the work (Hare, 1976); orientation, dissatisfaction, resolution, production, termination (LaCoursiere, 1980); generate plans, ideas, and goals; choose/agree on alternatives, goals, and policies; resolve conflicts and develop norms; perform action tasks and maintain cohesion (McGrath, 1984).

The second stream of research concerns phases in group problem-solving, or decision development. These researchers have typically worked with groups of much shorter duration (minutes or hours), studied in the laboratory, with the much more limited task of solving a specific problem. Studies have focused on discovering the sequences of activities through which groups empirically do (or should) reach solutions, and have used various category systems to analyze results. By abstracting the rhetorical form of group members' talk from its content, and recording percentages of statements made in categories such as "agree" and "gives orientation," researchers have portrayed the structure of group discussion. The classic study in this tradition is Bales & Strodtbeck's (1951) unitary sequence model of three phases in groups' movement toward goals: orientation, evaluation, and control.

Though they differ somewhat in the particulars, models from both streams of

research have important similarities. Indeed, Poole (1983b,p.341) asserts that "for thirty years, researchers on group development have been conducting the same study with minor alterations." These models are deeply grounded in the paradigm of group development as an inevitable progression: A group cannot get to stage 10 without first going through stages 1,2,3, and so on. For this reason, development is construed as movement in a forward direction, and every group is expected to follow the same historical path. In this paradigm, the environment may constrain systems' ability to develop, but it cannot alter the developmental stages or their sequence.

Some theorists have criticized the validity of these models. Research by Fisher (1970) and Scheidel & Crowell (1964) suggested that group discussion proceeds in iterative cycles, not in linear order. Bell (1982) and Seeger (1983) have questioned Bales & Strodtbeck's methodology. Poole (1981; 1983a,b) has raised the most serious challenge to the problem-solving models, by demonstrating that there are many possible sequences through which a decision can develop in groups, not just one.¹ Despite these critiques, however, the classic research continues to be widely cited, and the traditional models continue to be widely presented in management texts as the facts of group development (e.g. Helriegel, Slocum & Woodman, 1986; Szilagy & Wallace, 1987; Tosi, Rizzo & Carroll, 1986).

Apart from the question of validity, there are gaps in all these models (including those of the critics) that seriously limit their contribution to broader research and theory about groups and group effectiveness. First, as Tuckman pointed out in 1965 and others have noted up to the present (Hare, 1976; McGrath, 1986; Poole, 1983b), they offer snapshots of groups at different points in the life span, but say little about the mechanisms of change, what triggers it, or how long a group will remain in any one stage. Secondly, existing models have treated groups as closed systems (Goodstein & Dovico, 1979).

Without guidance on the interplay between groups' development and environmental contingencies, the models are particularly limited in utility for task groups in organizations. Not only do organizational task groups' assignments, resources and requirements for success usually emanate from outside the group (Gladstein, 1984; Hackman, 1985)—but such groups' communications with their environments are often pivotal to their effectiveness (Katz & Tushman, 1979; Katz, 1982).

The Approach of this Study

The ideas presented here originated during a field study of how task forces--naturally-occurring teams brought together specifically to do a project in a limited time period--actually get work done. The question that drove the research was: What does a group in an organization do, from the moment it convenes to the end of its life span, to create the specific product that exists at the conclusion of its last meeting? I was therefore interested not just in interpersonal issues or problem-solving activities--the foci of past research--but in groups' attention to outside resources and requirements, their temporal pacing, and in short, in exploring whatever the group did to make its product come out specifically the way it did, when it did. Since the traditional models do not attend to these issues, I chose an inductive, qualitative approach to increase the chances of discovering the unanticipated, and to permit analysis of change and development in the specific content of each team's work.

This study was designed to generate new theory, not to test existing theory, and the paper is organized to present a new model, not refute an old one. For clarity, however, differences between the proposed and traditional models of group development are noted after each segment of the results section.

METHOD

Because this study was somewhat unconventional, it may help to start with an overview. I observed four groups, (A,B,C & D in Table 1) between winter, 1980, and spring, 1981, attending every meeting of every group and generating complete

transcripts for each. This observation was done as part of a larger study of group effectiveness (Gersick, 1982; Hackman, forthcoming). I also prepared a detailed group project history for presentation to each team.

After completing studies of four groups it was evident that teams' lives had not gone as the traditional models predicted. Not only did no single development model fit all the teams, but, looking at the four teams together, the paradigm of group development as a universal string of stages did not fit. The sequences of activities that teams went through differed radically across groups. Moreover, activities and issues that most theories described as sequential progressions were fully simultaneous or reversed in some cases.

These findings prompted me to re-examine groups' transcripts. I began formulating a tentative new model of group development through the method of grounded theory (Glaser and Strauss, 1967), identifying similarities and differences across the histories, and checking emerging hypotheses against original raw data. The results were rewarding, but since three of the four groups were from the same setting, it seemed important to continue to expand the data base. I sought groups that still fit the research domain (explained below), but varied as much as possible in project content and organizational setting. As Harris & Sutton (1986) point out, "Similarities observed across a diverse sample offer firmer grounding for...propositions [about the constant elements of a model] than constant elements observed in a homogeneous sample..." Four additional groups (E, G, F, & H in Table 1) were studied in 1982-83. In line with Glaser & Strauss' suggestion, I stopped after observing the second set of groups, since the results remained highly consistent.

Research Domain

Several features distinguish the groups included in the domain of this research. They were real groups--members had interdependent relations with one another and developed differentiated roles over time, and the groups were

perceived as such both by members and nonmembers (Alderfer, 1977). Each group was convened specifically to develop a concrete piece of work; these groups' lives began and ended with the initiation and completion of special projects. Members had collective responsibility for the work: i.e. they were not merely working side by side, or carrying out pre-set orders: they had to make interdependent decisions about what to create and how to proceed. Groups all worked within ongoing organizations; all had external managers or supervisors, all produced their products for outsiders' use or evaluation. Finally, every group had to complete its work by a deadline.

Data Sources

The eight groups in the study (see Table 1) came from six different organizations in the Northeast (the student groups came from the same university), and varied in duration from seven days to six months. Groups were not selected randomly, but they were chosen carefully to insure that they fit within the research domain, and that all meetings could be observed from the start to the finish of their projects. The management students were recruited from graduate courses that required group projects. After the study was described to each class, groups were asked to volunteer. Entry to the other five groups was gained through referrals to individual members. Teams were provided with information about the study and opportunities to ask questions; no team was included without all members' permission. All teams except D permitted audio taping.

[Table 1 about here]

Data Collection

Every meeting of every team was observed, and hand-written transcripts were made during each meeting to back up the audio tapes. In addition to members' verbal communication, the hand-written notes included group-level indicators of the energy members applied to their work (attendance, scheduling and duration of meetings), the use of physical devices to structure work (writing on blackboards

or taking notes), and routines (meeting times, locations, and seating patterns). For the second four groups, members were also interviewed after their projects were over, to address aspects of each project's development that were not directly observed: the project's history; events that happened outside meetings; and members' expectations, perceptions, and evaluations of the project.

Data Analysis

This study follows the tradition of group dynamics research in its qualitative analytical approach. A case history was developed by the author for each of the first four groups after its product was completed, the unit of analysis being the group meeting. Teams' activities were not reduced to a priori categories, for three reasons. 1) Existing category systems have measured the frequency of groups' activities without necessarily indicating their meaning: e.g. a large percentage of "problem orientation" statements could mean either that a group did a careful job, or had great difficulty defining its task. 2) A priori categories would be unable to capture qualitative, substantive revisions in groups' product-designs. 3) Category systems may be used for specific hypothesis testing, but are inappropriate for inductive discourse analysis in theory development (Labov & Fanshel, 1977, p.57).

Instead, transcripts were read repeatedly, and marginal notes were used to produce literal descriptions of what was said and done at each meeting, much like detailed "minutes." These descriptions, or "minutes" encompassed the modes of talk (e.g. construction work, arguing, joking); the topics covered; teams' performance strategies (i.e. implicit or explicit methods of attacking the work); any immediate or long-term planning they did; patterns of relations among members (e.g. roles, coalitions and conflicts); and teams' discussions about or with outside stakeholders and authorities.

The entire course of meetings was searched to pinpoint milestones in the design of the product. This process was similar to that which is usually followed

implicitly, when a scholar develops a history of the body of work of an artist, writer, or scientist. I identified ideas and decisions that gave the product its basic shape, or that would be the fundamental choices in a decision tree (vs. the derivative details) if the finished product were to be diagrammed. Points when milestone ideas were first proposed were identified, whether or not they were accepted at the time. Milestone decisions were identified by the expression of agreement to adopt a proposal, and evidence that the proposal had been adopted: e.g. subsequent discussion was premised on it or concrete action followed from it. These milestones added precision to the qualitative historical portrait of each team's product. The complete string of each team's meetings was searched to identify substantive themes of discussion and patterns of group behavior that persisted across meetings, and to see when those themes and patterns ceased or changed.

After the first four histories were complete, they were searched for general patterns, by isolating the main points from each team's case, forming hypotheses based on the similarities and differences across groups, then returning to the data to assess and revise the hypotheses. Analysis of data from the first four groups suggested a new model of group development, which was explored and refined in the second stage of the study.

Analysis of the second set of groups again began with the construction of a detailed project history for each team, but it was more systematic. To help preserve the literal completeness of project histories (and forestall premature closure on the developmental model) each team's transcripts were condensed in three successive steps. Every "turn" members took to speak was numbered and condensed to retain the literal meaning but make a streamlined document (e.g. "628: Rick role-plays president's reaction to the idea of tiering the account.") These documents were next condensed by abstracting members' exchanges, a few statements at a time, into a detailed topic-by-topic record of the meeting (e.g.

"646-656: strategizing how to get soundings from outsiders on whether or not to tier the account.") The third condensation produced a concise list of the events--discussions, decisions, arguments, questions--of each meeting (a sample item: "Team estimates outsiders' reactions to tiering account. Decides to test the waters before launching full design effort; plans how to probe without losing control over product design.") This process reduced transcripts of fifty or more pages to one-page lists, concise enough to allow an overall view of teams' progress across all meetings--yet documented minutely enough to trace general observations back to the numbered transcripts for concrete substantiation or refutation.

After the second four teams' histories were complete, they were used for another iteration of theory-building work. Transcripts of meetings and interviews were searched to see whether or not features common to the first four groups appeared. Again, similarities and differences among all eight groups were used to extend and refine the model.

Presentation of Results

Qualitative research permits wide exploration, but forgoes the great economy and precision with which quantified results can be summarized and tested. This study employs description and excerpts from meetings and interviews to document (in members' words as often as possible) what happened in the teams, and how they progressed over time.

RESULTS

An Overview of the Model

The data revealed that teams used widely diverse behaviors to do their work; however, the timing of when groups formed, maintained, and changed the way they worked was highly congruent. If the groups had fit the traditional models, not only would they all have gone through the same sequence of activities, they would all have begun with an open-ended exploration period. Instead, every

group exhibited a distinctive approach to its task as soon as it commenced, and stayed with that approach through a period of inertia² that lasted until half way through its allotted time. Every group then underwent a major transition: In a concentrated burst of changes, groups dropped old patterns, re-engaged with outside supervisors, adopted new perspectives on their work, and made dramatic progress. The events that occurred during those transitions--especially groups' interaction with their environments--shaped, for each group, a new approach to its task. These approaches carried groups through a second major phase of inertial activity, as they executed plans created at their transitions. An especially interesting discovery was that each group experienced its transition at the same point in its calendar--precisely halfway between its first meeting and its official deadline--despite wide variation in the amounts of time the eight teams were allotted for their projects.

This pattern of findings did not simply suggest a different stage theory, with new names for the stages. The term "stage" connotes a hierarchical progress from one step to another (Levinson, 1986), and the search for stages is an effort to "validly distinguish...types of behavior," each of which is synonomous with and indicative of a different stage (Poole, 1981,pp.6-7). "Stage X" is comprised of the same behavior in every group. These findings identified temporal periods (which I term "phases") that emerged as bounded eras within each group, without being comprised of identical activities across groups, and without necessarily progressing hierarchically. Metaphorically, this is like establishing that the game of football progresses through a structure of quarters with a major half-time break (phases), versus saying that football games progress as a characteristic sequence of distinguishable sets of plays (stages). A different paradigm of development appeared to be needed.

The paradigm through which I came to interpret the findings resembles a relatively new concept from the field of natural history which has not

heretofore been applied to groups: the punctuated equilibrium (Eldredge & Gould, 1972). In this paradigm, systems progress through an alternation of stasis and "sudden appearance"--long periods of inertia, punctuated by concentrated, revolutionary periods of quantum change. In this paradigm, systems' histories are expected to vary, because situational contingencies are expected to influence significantly the path a system takes at its inception and during periods of revolutionary change, when systems' directions are formed and re-formed.

In sum, the proposed model describes groups' development as a punctuated equilibrium. Phase I, the first half of groups' calendar time, is an initial period of inertial movement, whose direction is set by the end of the group's first meeting. At the midpoint of their allotted calendar time, groups undergo a Transition, which sets a revised direction for Phase II, a second period of inertial movement. Within this Phase I--Transition--Phase II pattern, two additional points are of special interest: the first meeting, because it displays the patterns of Phase I; and the last meeting ("Completion"), because it is a period when groups markedly accelerate and finish off work generated during Phase II.

Special Aspects of the Model. The importance of the first meeting was its power to display the behaviors (process) and themes (content) that dominated the first half of each group's life. Each group appears to have formed, almost immediately, a framework of "givens" about its situation and how it would behave. This framework, in effect, constituted a stable platform from which the group operated throughout Phase I.

Members occasionally indicated clearly their approach to something, stating their premises and how they planned to behave ("The key issue here is X; Let's work on it by doing Y"); however, teams seldom formulated their frameworks through explicit deliberation. Instead, frameworks were established implicitly, by what was said and done repeatedly in the group. This was observable on

several fronts: (1) The themes, topics, and premises of discussions, (e.g. a group takes as "given" that its organization's staff is not talented, and discusses every project idea in terms of how hard it would be to explain to the sales force); (2) members' interaction patterns (e.g. the roles, alliances, and battles members took on); (3) performance strategies (methods of attacking the work); (4) the group's behavior toward its external contexts (e.g. acting dependent or acting assertive about outside stakeholders) and (5) the group's overall standing on its task (e.g. confident of a plan and working on it; deadlocked in disagreement over goals; explicitly opposed to the assignment and unwilling to begin work).³

Central approaches and behavior patterns that appeared during first meetings, and persisted during Phase I, disappeared at the half way point, as groups explicitly dropped old approaches and searched for new ones. They revised their frameworks. The clearest sign of transition was the major jump in progress that each group made on its project at the temporal midpoint of its calendar. Further comparisons, across meetings within groups, and across groups, revealed five empirical earmarks of the transition--(to be described below) a set of events uniquely characteristic of midpoint meetings. The frameworks that groups formed at transition carried them through a second period of momentum, Phase II, to a final burst of completion activities at their last meetings.

Illustration of the Model

Three groups will serve as examples, to illustrate each part of the model. Each is representative of the overall model, yet each shows some aspects especially concisely, and their differences show the diversity within the pattern.

First Meeting and Phase I

Almost immediately in every team studied, members displayed the framework through which they approached their projects for the first half of their calendar time. Excerpts show the scope, variety, and nature of these frameworks:

E1 - The students. A team of three graduate management students starting their first, five-minute encounter to plan work on a group case assignment, defined by the professor as an organizational design problem.*

1 Jack: We should try to read the [assigned] material.

2 Rajeev: But this isn't an organizational design problem, it's a strategic planning problem.

3 (Jack and Bert agree)

4 Rajeev: I think what we have to do is prepare a way of growth [for the client].

5 (Nods, "yes" from Jack and Bert)

Example 1 (E1) an excerpt of less than one minute from the very start of a team's life, gives a clear view of the opening framework. The team's approach toward its organizational context (the professor and his requirements) is plain. Members are not going to read the material; they disagree with the professor's definition of the task and will define their project to suit themselves: "this isn't an organization design problem, it's a strategic planning problem."

Their pattern of internal interaction is equally visible. When Rajeev makes three consequential proposals--about the definition of the task, the team's (non)obligations to the professor, and the goal they should aim for ("a plan of growth")--everyone concurs. There is no initial "storming" in this group. The clip also shows this team's starting approach toward its task: confidence about what the problem is, what the goal ought to be, and how to get to work on it. The team's stated performance strategy is to use strategic planning techniques to "prepare a way of growth."

The following excerpt of the team's subsequent work session, two days later, shows how well the above minute of dialogue indicated lasting patterns:

E2 - The students' first work session:

1 Jack: I have not looked at any of the readings--did you look at all?

2 (Bert and Rajeev laugh.)

3 Jack:...I was thinking...we could do alternatives--different ways to

grow...like a prospectus for a consulting study.

4 Bert: That's exactly the way I'd go. (re-states Jack's position)

5 Rajeev: Well...we are thinking mostly in the same manner. My idea was (he states the same plan).

[After five minutes of discussion about the client and his situation, Rajeev suggests they start work]

6 Jack: We've got some more time...I think it would be premature to describe alternative goals yet...

7 Rajeev: If we can generate some of the assumptions now and talk about the alternatives later--it's a two-step thing.

8 Jack: OK, that's fine. Let's start that.

9 Rajeev: (at blackboard) What are the things on which the business depends?

The dialogue shows that the team is still disregarding the professor, (E2:1-2)^a still working in easy agreement (E2:4,5,&8), and still taking the same approach to the task (E2:3). It also shows the group acting on the intentions expressed above, employing a logical, orderly technique to construct its product (E2:6-9). The team worked within this framework for two full meetings. Rajeev led the group through a structured set of strategic planning questions. At that point, the team had a complete draft outline of a growth plan for its client.

E3 - The bankers. A group of four bank executives, opening their first meeting to design a new type of account:

1 Don: What do you think we ought to do to start this, Rick? Just go through each of these? (referring to a written list of topics)

2 Rick: Well, I want to explain to Gil and Porter--We had a little rump session the other day just to say "What the hell is this thing? What does it say, and what are the things that we have to decide?" And what we did was run through a group of 'em... These are not necessarily in order of importance--they're in order of the way we thought of 'em, really--

This excerpt of the first 25 seconds in the life of another task force shows a quite different beginning, and illustrates the team's approach toward its task, and its performance strategy. This team did not choose a product through the whole first half of its life. Given a new set of federal rules, the team's reaction was a question: "What the hell is this thing? What does it say?" The

team was uncertain, and as the project began, they approached the task as a job of mapping out "the things we have to decide."

Secondly, it is an elegant summary of the group's performance strategies. It shows that the leader prepared for the meeting with one other member, that the preparation consisted of generating a list of topics to be covered, and that this list was arranged only "in order of the way we thought of 'em." This general strategy was followed for every one of the group's meetings. Before each, a pair of members prepared skeletal documents for the group to work from. Items were checked off the documents as they were covered, but discussions were more like pinball games than orderly progressions: each question ricocheted the conversational ball onto several new questions--and occasionally bells and lights went off as the team made a decision about a specific point.

The link between the team's performance strategies (pinball style) and its approach to its task (as "mapping") was strong. As one member, trying to keep track of the discussion, said to another, "It's all intertwined."

For the first two of its four meetings, this team's dominant activity was to generate the questions that needed to be settled, in a loosely-structured format, and to go as far as they could in answering each. Their own definition of where they were, through the end of this period, was that they did not yet know "what we're planning to offer. We're still thinking."

E4 - The hospital. Five hospital department-heads, a few minutes into their 1st meeting to plan the 4th in a series of management retreats for their peers and division chief. They have just chosen a date and place:

1 Nancy: So, in order of preference, the [dates we want are] the 10th, 3rd, and 9th.

2 Sandra: Sounds great. [...] (to Bernard): I think you probably should talk to the division chief about--did he give you any thoughts about what we should do next?

3 Bernard: I'd say--that's on us--

[...]

4 Sandra: Um hum. The only thing I feel strongly about is--it's not time to have an outside [facilitator].

5 Bill: Well, I'm not for or against [that] but--What are we trying to achieve? Trust among--people--?...the highest value [on the participants' critique of the previous retreat was] developing trust among the managers themselves...and not only trust among ourselves...I think there has to be trust--upward.

6 Sandra: And that's the issue we talk about, and walk around the edges of...We say, "Yeah, Tom, (division chief) we trust you," but we don't trust you very well, cause we don't dare say we don't trust you, Tom.

7 Bill: Yep. The sacred cow, like you said earlier.

8 Bernard: There's 3 levels, aren't there? The people we supervise, peers that we work with, as well as--

This team began at an impasse. After swiftly deciding where and when to hold the retreat, the pace plummeted with the question of what to do with the event. The team's opening framework shows the problem. Members' complex approach toward the organizational context was complicated because the final product had to please the task delegator, (the division chief); he had given no indication of what they "should do next"; and the team leader was unwilling to ask (E4:2-6). The team's approach to its task was closely related. Members' opening premises were that the retreat ought to deal with trust, especially with regard to the division chief, and that they should run it themselves, without bringing in an outside facilitator (E4:4-6) These premises put the team in a (self-imposed) bind " 'cause we don't dare say we can't trust you, Tom." The team's key Phase I question was "What are we trying to achieve?" (E4:5)

The concern with intra-division relationships, and the feelings of directionlessness in the group continued for the first six weeks of the team's twelve-week lifespan: "From [the beginning] to the [end of October] all I can remember is talking. With absolutely no idea of what was going to happen. None." (Member interview.) This was so even though members were concerned and wanted meetings to be different: "It was very frustrating from September 20 until, maybe November 1 for me (first through sixth weeks). That's a long time

to be frustrated." "It was very difficult to get the work going. We had no direction, only to put together a retreat...Nothing was happening! I was very frustrated." (Interviews with 2 other members.) The group made no decisions about what to do at the retreat during that period of its life.

Table 2 summarizes the findings about the First Meeting and Phase I. Column one presents each team's starting approach toward its task; column two summarizes the central task activity of Phase I (including the first meeting).

[Table 2 about here]

Each group immediately established an integrated framework of performance strategies, interaction patterns, and approaches toward its task and outside context. The most concise illustration of this finding is the student group, whose 1) easy agreement on 2) a specific plan for its work represented 3) a decision to ignore the outside requirements for its task—all within the same minute of group discussion. This framework embodied the central themes that dominated all through the first half of groups' calendar time, even for teams that were frustrated with the paths they were following. This finding contradicts traditional models, which pose the team's beginning as a discrete stage of indeterminate duration, during which teams orient themselves to the situation, explicitly debating and choosing what to do.

Though each team began with the formation of a framework, each framework was unique (contrast the students' instant confidence with the hospital administrators' directionlessness). Some teams began with harmonious internal interaction patterns, some began with internal storms. Teams took very different approaches to authority figures from their outside contexts (contrast the hospital administrators' preoccupation with the division chief to the students' cheerful disregard for the professor). These findings contradict the typical stage theory paradigm, in which it is assumed that all teams essentially begin with the same approach toward the task (e.g. "orientation"), toward the team

(e.g. "forming," then "storming") or toward authority (e.g. "dependency," Mann, Gibbard, & Hartman, 1967).

The Midpoint Transition

As each group in the sample approached the midpoint between the time it started work and its deadline, it underwent great change. The following excerpts from transitional meetings illustrate the nature and depth of this change. Particular points to notice are members comments about time, and their behavior toward external supervisors.

E5 - The students. Beginning of meeting on the 6th of an 11-day span:

1 Rajeev: I think, what he said today in class--I have, already, lots of criticism on our outline. What we've done now is OK, but we need a lot more emphasis on organization design than what we--I've been doing up to now.

2 Jack: I think you're right. We've already been talking about [X]. We should be talking more about [Y].

3 Rajeev: We've done it--and it's super--but we need to do other things, too.

4 (Bert agrees)

5 Jack: After hearing today's discussion--we need to say [X] more directly. And we want to say more explicitly that [...]

6 Rajeev: ...should we be...organized and look at the outline?...We should know where we're going.

(The group goes quickly through the outline members had prepared for the meeting, noting changes and additions they want to make)

7 Rajeev: The problem is, we're very short on time.

The students came to this meeting having just finished the outline of the strategic plan they had set out to do at their opening encounter (see excerpt E1). At their midpoint, they stopped barreling along on their first task. They marked the completion of this work, evaluated it, and generated a fresh, significantly revised agenda: "We've done it--and it's super--but we need to do other things, too." The team's change in outlook on its task was coincident with a change in stance toward the professor. Revisions were made based on

"what he said today in class," and "after hearing today's discussion." Having reaffirmed the value of their first approach to the case, members reversed their original conviction that it was "not an organizational design problem." This was the first time members allowed their work to be influenced by the professor, and at this point, they accepted the influence enthusiastically.

It is significant that Rajeev's remark "We're very short on time" was only the second comment about the adequacy of the time the group had for the project--and it marked a switch from Jack's early sentiment that "we've got some more time" (E2:6). A new sense of urgency marked this meeting.

While the students knew what they wanted to create at their first meeting, the bank team started much closer to "scratch." They were not nearly as far along as the students at the midpoint. Their transitional meeting was different from the students' in character, but similar in scope and magnitude.

Since the bankers scheduled each meeting on an ad hoc basis, it is noteworthy that the third one fell on the 17th day of a 34-day span. As he convened the group, Don worried that if they continued their present course, they might not finish on time: "...we can explore all the ramifications [of the regulations] but I just hope we don't get stuck, toward the end, without--". In the first minutes of this meeting, members confirmed their intentions to move to the next step: "Basically, we're gonna lay out the characteristics of the account." The next two hours were spent problem-solving with two staff experts, invited to the meeting to make sure the account design would fit the bank's computer systems. By the end of that time, the basic design was finished.

The leap forward on the task coincided with a change in the team's relationship with its organizational context. At first, the group decided its meetings would be closed to staff people "[until]... we know how we want to handle this..." The third meeting marked that shift. Moreover, one of the members had a key meeting with the bank chairman that afternoon, to argue for the extra

resources he now felt were needed to market the team's product successfully.

If the bank started out less far along in its work than the students, the hospital team was even a step behind the bank. Though everyone said that intra-division relationships were the key topic to address, the team could not agree on a goal for the retreat, and spent the first half of its life describing and rejecting a series of ideas. Statements 1-3 of the following excerpt show how little concrete progress the team had made, halfway through its calendar; the remaining lines show how much they then accomplished at the meeting:

E6 - The hospital. Just before the 5th meeting, 6th week of 12-week span.

1: Bernard (to Bill): I'm gonna bring Tom (division chief) to the next meeting, Bill. ...Last time we were struggling like we are here--Tom [really helped] to sort things out...

[...]

2: Bernard (convening meeting): ...I think we need to...brainstorm about [the program]--see what we might come up with, and bounce it off Tom next time. (He recaps an idea he brought to the previous meeting.)

3: Sandra: We'd each be responsible for an hour of the program? --As facilitators, or role playing--whatever we decided to do?

[Later in the meeting, there was a dramatic shift in the discussion when Nancy described a management simulation program on the problems of middle managers, run by a consultant who worked nearby:]

4: Sandra: If awareness is all that comes out of the day...I think that's a good--a reasonable goal.

5: Nancy: Understanding, too, some of the forces that operate on us as middle managers--that's where we are, in our relationship with the top manager...

6: Bernard: Yeah...That's the thing that we all share together, with the exception of Tom--is that we're in the middle, and it's a difficult spot to be in. And this would show that.

[...]

7: Sandra: (adds up the time that the simulation and debriefing would take) So--there's the rest of the day! [...] I think that's reasonable to run by Tom.

[The team endorsed the program, and decided to invite the consultant Nancy mentioned to run it. At the close of the meeting:]

8: Bill: We are making progress! I was afraid we weren't moving fast enough!

9: Sandra: I had the same problem! ...I felt... in the beginning, there was a lot of talk...That's necessary in some degree--Then, I think, you gotta move on it.

10: Bernard: We've made progress, folks...[Next week] Tom'll be here, we'll throw those ideas out to him--Monday, we're going to look at the [conference center]--so we've made progress.

This team's midpoint anxiety about finishing on time showed in the meeting, and in interviews: "I was uncomfortable that time was going to run out and we were not going to have it done." "...I called Nancy and said 'Look--this needs to start going, or we're going to get to [the program date] wondering what we're going to do!'" Yet in a single session, the team managed to solve all the major problems it had struggled with for six weeks. The theme of the new program design--"being in the middle"--was actually not new to the group. It had come up in the very first meeting (see E4:7) and had been discussed with some enthusiasm at the fourth meeting. But members had been preoccupied trying to make the "trust" idea work. Because it did not fit into the team's original framework, it did not lead to a program design during Phase I.

Two more major changes show in excerpt E6. One was the reversal of the first-meeting approach that members had to run the program themselves (E4:4), with the decision to get an outside facilitator. Members said in interviews that this change made a tremendous difference. One person captured the whole transition: "The [mood in the team] went down...and then all of a sudden, it took kind of a swoop... 'Ah! It's going to happen!' We decided what we were going to do...The decision to bring in a facilitator was a great relief! Then we got the division chief--he said 'OK, go ahead,' and the rest was just mechanics."

The second change occurred in the team's approach toward its task delegator, when Bernard reversed his early decision not to ask the division chief for help (E4:3; E6:1). Indeed, the anticipation of talking to Tom appeared to spur the

team's work at the same time that it marked the end of talk about him.

[Table 3 about here.]

The structure of the transition period was similar for all the teams, even though the specific details differed widely. Table 3 shows the timing of each team's transition meeting, describes the changes that occurred in the work at that point, and documents those changes in members' words. Five indicators, or earmarks of the transition are reviewed below.* (Letters identify groups and numbers identify lines of dialogue, from Table Three.)

First, teams entered transition meetings at different stages in their work, but for each, progress began with the completion or abandonment of Phase I agendas. For example, groups A and D entered transition meetings with complete drafts of plans hatched when they started, and team H finished a system diagnosis just before its midpoint (see Table 1). The hospital administrators dropped key premises that the program would be about trust and would be run by themselves. Team G's leader unexpectedly pronounced the group's task complete at its midpoint (G:2)--but interviews indicated that members, too, felt it was time to move dramatically: "At that point... there was a need to go up. But instead of going up, we stopped."

Second, team members expressed urgency about finishing on time. At this time--and no other--members expressed explicit concern about the pace and timeliness of their work: e.g. "We ought to be conscious of deadlines." (Team H; see also Table 3: A(2), B(1-2), D(4), E(1), and F(2)). Group G, dissolved with no prior warning (or protest) at its midpoint, was the only team that did not fit this pattern.

Third, teams' transitions all occurred at the midpoints of their official calendars, regardless of the number or length of meetings teams had before or after that.

Fourth, new contact between teams and their organizational contexts played

important roles in their transitions. Most often, this contact was between the team and its task delegator. Sometimes it was initiated by the team (E & F), sometimes by both at once (A, D, & H),⁷ and sometimes by the task delegators (B & C).

These contacts both fostered decision-making and influenced decision outcomes. Five groups showed explicit new interest in the match between their product and outside resources and requirements. Excerpts A and D, and the bank's work with computer experts, show how groups shaped their products specifically to contextual resources and requirements. The bank also illustrates the other side of the coin--a team member took his new assessment of the project out to the organization to request more resources. The importance of this contact is highlighted by the exception, team G, whose lack of information about outside requirements exacerbated its inability to choose: "If we are expected [to do X] then there is no [way to support plan A over plan B, but]...That may not be the demand. Obviously, there's a lot of politics outside this room that are going to define what [we] have to do."

Finally, transitions yielded specific new agreements on the ultimate directions teams' work should take. Regardless how much or how little members argued during Phase I, every team that completed its task agreed, at transition, on plans that formed the basis for the completion of the work. In teams with easy Phase I interaction, the agreeableness itself was not a change. But for teams where Phase I had been conflictful, transition meetings were high points in collaboration. Indeed, in the one team whose members still disagreed at this point, the leader dissolved the group, chose a plan unilaterally, and moved the work forward by shifting it into other hands (6:2).

Overall, the changes in teams' work tended to be dialectical. Teams that had started fast, with quick decisions and unhesitating construction of their products, paused at their transitions to evaluate finished work and address

shortcomings (A & D). For teams that started slowly, unsure or disagreeing about what to do, transitions were exhilarating periods of structuring, making choices, and pulling together (B, C, E, F, H). In either case, transitional advances depended on the combination of Phase I learning and fresh ideas. For example, the bankers' transitional raw materials were ideas generated during Phase I, refined and integrated with the help of expertise newly infused into the team. The hospital administrators, newly open to an alternative format, found use for a theme they had discussed but not developed earlier.

A midpoint transition is not predicted in traditional models of group development, which present groups as progressing forward if and whenever they accumulate enough work on specific developmental issues--not at a predictable moment, catalyzed by an awareness of time limits. Traditional group development models are silent about team-context relations, or the influence of such relations on teams' progress. These findings suggest that there is a predictable time in groups' life cycles when members are particularly influenceable by, and interested in communication with outsiders. (Cases where task delegators contacted teams at this point suggest this interest might be mutual. This is an important question for future research.)

Phase II

Teams' lives were different after the midpoint transition. In all seven surviving teams, members' approaches toward their tasks clearly changed--and advanced forward--from Phase I (see Table 2). All seven executed their transitional plans during this period. Post-transitional changes in teams' internal interaction patterns and approaches toward their outside contexts were not so simple. Transitions did not advance every group forward in these areas, nor did each team use its transition equally well. Internal troubles that went unaddressed during transition sometimes worsened during Phase II, and teams who were lax in matching their work to outside requirements during the transition

showed lasting effects.

The student group, whose Phase I task work developed strategic "growth options" for its client, spent Phase II building the organizational design (planned at the transition meeting) to support those options. As the task approach shifted from strategic planning to organization design, one element of the team's interaction pattern changed. Jack took over from Rajeev as lead questioner. Other than that, the team continued the easy, orderly agreement of its Phase I interaction style. The team sustained its new perspective on its context, formed at transition, by maintaining attentiveness to the professor's requirements through Phase II.

The bankers spent Phase II executing the details for the account they had designed at transition: preparing marketing "extras," operational machinery, and documents. With this change in task work, the team deepened its transitional move toward working with the organizational context, and also dramatically changed its own interaction pattern. The team did not convene as a group during Phase II, but met individually and in pairs with staff throughout the bank.

The hospital team's Phase I uncertainty about the task, and discussion of relationships did not recur. A consultant (engaged shortly after the midpoint) took charge of planning the program the team chose at its transition; the team's work for the next four meetings consisted of supplying the consultant with information, and arranging menus, invitations, and materials for the retreat.

Though the hospital was like the other teams in using Phase II to carry out transitional plans in task work, its Phase II changes in interaction patterns and approach toward outside context were more extreme and less benign. Internally, the team fell apart just after the transitional meeting. Two members who had engaged in restrained competition through Phase I (and supported each other at the transition) had a falling out. The same week end, the team leader and one other member engendered resentment by making some unilateral

decisions outside the group, and the interaction in meetings deteriorated. The team's transitional openness toward its context also regressed, after the chief appeared at the post-midpoint meeting:

E7: from interview with the hospital team leader:

"He says 'Do what you want. Spend what you want.' Then he came to the damn meeting and was worried about money! Giving me mixed signals! That's when I decided, I'm gonna spend what I want and make my own decisions..."

By the time the division chief met with the team, the decision to hire the facilitator (the largest expense) had already been made. It was "too late" to be "worried about money," and the team never checked its budget with the chief.

Phase II was a second period of inertia in teams' lives, shaped powerfully by the events of their transitions. Teams did not alter their basic approaches toward their tasks within this phase. As one hospital team member stated, "We decided what we were going to do [at the midpoint meeting]...and the rest was just mechanics."

Since all teams were doing construction work (performing) on their projects during Phase II, it was a time when teams were more similar both to each other and to the traditional model than Phase I. However, progress was not so similar to traditional models in other respects, since it was not so linear. Not only had some teams started performing earlier, without previous conflict, but other teams returned to internal conflict after the transition, and during Phase II performance. In every team, transitional work centered explicitly on solving task problems, not on solving internal interaction problems; it is less surprising, then, that some teams' internal processes got worse after the major need for collaborative decision-making was past.

Completion

"Completion" is the portion of teams' lives when their activities were most similar to each other. Three patterns characterized final meetings: 1) groups' task activity changed from generating new materials to editing and preparing

existing materials for external use; 2) as part of this preparation, their explicit attention toward outside requirements and expectations rose sharply; 3) groups expressed more feeling (positive or negative) about their work and each other. At this point, the major differences among the groups was not what they were doing, but how easily they were doing it. Not surprisingly, groups that had checked outside requirements earlier on, and groups that had paced themselves well all along, had easier, shorter final meetings.

The last distinct change in the student team's life occurred the day before its paper was due. This meeting was considerably longer than any other; the team now had to keep working until the case analysis was finished. Members' work activities changed from generating ideas to editing what they had into the form required by the instructor: "I'm not disagreeing with anything you're saying. But I think you got 'em in the wrong section." Though the long hours, and the need to edit each others' work made the meeting more difficult than usual, by the time the team was ready to give its presentation, members were expressing their feelings that the project had gone well. The team's presentation went smoothly, and received a good grade.

The bank's final group meeting marked the "finish [of] all the deliberations" about the design of the account, and a shift into activities to educate the public and the branch banks about it: "It's one thing to...say we're gonna offer the thing... [But now] we've gotta get something out [to the staff] on how to handle it." The team went over the account one last time, to get it "written in blood" for the advertising copy, due that day. Then, with two extra staff, members planned the final approach. After the meeting everyone rushed off with his own assignment for the new task of getting the whole bank ready for opening day. In interviews later, team members proudly described a memorandum the president had sent congratulating everyone on the success of the account.

By the hospital group's last meeting, the team's work was mostly done. At

this point, the interpersonal tension that had been building during Phase II erupted in an angry discussion about the handling of the consultant's fee, and how to present it to the division chief. But the subject was dropped when a member declared it had been "talked about long enough." The team delegated final responsibilities for the conference, and ended the meeting early. On the day of the retreat, half the team members arrived late and left early; otherwise, relations among them appeared smooth. At day's end, the division chief (who had not yet received the bill) toasted the team: "I think this is the best one yet, and I'm looking forward to number five."

In every team, discussion of outsiders' expectations was prominent at the last meeting. As teams anticipated releasing their work into outside hands, they scrutinized it freshly, through outsiders' eyes: "We'll be judged poorly if we..."; "You can't promise [X] and then do [Y]." Since Phase II carried out, but did not alter, plans made at Transition, teams that entered Phase II with a poor product-requirements match had an especially hard time with this at Completion. But even teams that discovered, in last-day meetings, that they had major gaps to fill, framed their remaining work as "rearranging" or fixing what they already had: "I think our content--is good...it's just a matter of reorganizing it..." (Team B). "I think we have all the ideas...The main task is how to arrange them" (Team A). Though teams' attention to outside requirements was high at last meetings, Completion activities did not undo the basic product revisions established at transition.

DISCUSSION

The traditional paradigm portrays group development as a series of stages or activities through which groups gradually and explicitly get ready to perform, and then perform, their tasks. All groups are expected to follow the same historical path. Existing models do not specify either the mechanisms of change or the role of the group's environment. In contrast, the paradigm suggested by

the current findings indicates that groups develop through the sudden formation, maintenance, and sudden revision of a framework for performance: i.e., a punctuated equilibrium. The proposed model attends particularly to the processes through which frameworks are formed and revised, and predicts both the timing of progress, and when and how in their development groups are likely (or unlikely) to be influenced by their environments. The specific issues and activities that dominate groups' work are left unspecified, since groups' historical paths are expected to vary.

The proposed model works in the following way: A framework of behavior patterns and assumptions through which the group approaches its project emerges in the first meeting, and a group stays with it through the first half of its life. Teams may show little visible progress during this time, because members may be unable to perceive a use for the information they are generating until the initial framework is revised. At their calendar midpoints, groups experience transitions--paradigmatic shifts in their approaches to their work--enabling them to capitalize on the gradual learning they have done, and make significant advances. The transition is a powerful opportunity for a group to alter the course of its life midstream--but one that must be used well, because once it is past, a team is unlikely to alter its basic plans again. Phase II, a second period of inertial movement, takes its direction from plans crystallized during the transition. At completion, when a team makes a final effort to satisfy outside expectations, it experiences the positive and negative consequences of past choices.

The components of this model raise an interesting set of theoretical questions. Why do lasting patterns form so early, and persist through long periods of inertia? Why do teams' behavior patterns and product designs undergo dramatic change "on the dot" of half way through their project calendars? What is the role of the team's context in its development? This exploratory study

does not test or prove any prior hypotheses; nonetheless, it is appropriate to ask whether established theory provides any basis for understanding the observed results, to help formulate hypotheses and questions for future testing.

Why do lasting patterns form so early and persist through long periods of inertia? The present findings show that lasting patterns can appear as early as the first few seconds of a group's life. This finding was unexpected, but it is not unheard-of. Reports from the psychoanalytic literature show the power of the first minutes of a therapeutic interview to predict the central issues of the session. (Ginnette, 1986; Pittenger, Hockett, & Danehy, 1960, p.22b) Quite recently, Bettenhausen and Murnighan (1985,p.359) found that "unique norms formed in each [of several bargaining groups], typically during their very first agreements."

The sheer speed with which recurring patterns appear suggests they are influenced by material established before the group convenes: members' expectations about the task, each other, and the context; their repertoires of behavioral routines and performance strategies. This would circumscribe the influence of the interaction process that occurs in the first meeting--but not rule it out. Bettenhausen and Murnighan (1985) discuss norm formation in terms of what happens when team members encounter the scripts (Abelson, 1976) each other has brought into a group's first meeting. Pittenger, Hockett, and Danehy (1960, pp. 16-24) describe the opening of a therapeutic interview as the interaction of "rehearsed" material brought in by the patient, with the therapist's opening gambit. This construction of the first meeting suggests that peoples' earliest responses to each other set lasting precedents about how the team is going to handle the issues, ideas, questions and performance strategies that members have brought in.

In Phase I, groups define most of the parameters of their situation quickly and examine them no further, concentrating their work and attention on only a

few factors. The contrast between this model and the traditional idea that groups take time to generate, evaluate, and choose alternative views before getting to work, parallels Simon's (1976) contrast between bounded and perfect rationality, and may be understood through his argument that people must make simplifying assumptions in order to take any action at all.

Why do teams' behavior patterns and product designs undergo dramatic change "on the dot" of half way through their project calendars? The transition can be understood through a combination of two concepts: problemistic search (March and Simon, 1958) and pacing. The idea of problemistic search simply extends the theory of bounded rationality. It posits that innovation is the result of search, and that people do not initiate search unless they believe they have a problem. New perspectives appear to enter a group at transition because team members find old perspectives are no longer viable, and initiate a fresh search for ideas.

The problem that stimulates search, and stimulates it at a consistent moment in groups' calendars, may be explained with the construct of pacing. Groups must pace their use of a limited resource, time, in order to finish by their deadlines. The midpoint appears to work like an alarm clock, heightening members' awareness that their time is limited, stimulating them to compare where they are with where they need to be, and adjust their progress accordingly: it is "Time to roll." Since groups in this domain are charged with creating novel products, perspectives created so quickly at the first meeting are likely to be found wanting in some way. For example, it may be perfectly suitable to begin with the approach "we're mapping out the task," but that must change some time if there is to be a product. Even groups that started with a plan they liked, learned by working on it to see flaws that were not visible while the plan was just an idea.

This model has some important qualifications. If the midpoint is primarily a moment of alarm, when groups feel "we need to move forward now," then the

transition is an opportunity, not a guarantee of progress. This allows for the possibility that a group (like an individual) might feel strongly that it is time to move ahead, yet be unable to do so. Similarly, to hypothesize that transitions are catalyzed by groups' comparison of their actual progress with their desired progress, leaves room for the chance that a group may, (correctly or incorrectly), be largely satisfied, and proceed with little visible difference. These qualifications are consistent with the observation that groups' historical paths vary, and they provoke further research by posing the question: what factors affect the success of groups' transitions?

Why the consistent midpoint timing? Halfway is a natural milestone, since teams have the same amount of time remaining as they have already used, and they can readily calibrate their progress. Adult development research offers analogous findings. At mid-life, people shift focus from how much time has passed to how much time is left (Jaques, 1955). Levinson (1978, p.192) finds a major transition at mid-life, characterized by "a heightened awareness of mortality and a desire to use the remaining time more wisely." Nonetheless, it would be premature to hinge the entire weight of these findings on the midpoint timing of the transition. Some groups may work on schedules that make times other than the midpoint highly salient. Ultimately, the midpoint itself is not as important as the finding that groups use temporal milestones to pace their work, and that the event of reaching these milestones pushes groups into transitions. This study raises, but cannot answer, the question of what "sets" the alarm to go off when it does, and precisely how it works in groups.

What is the role of the team's context in its development? Traditional group development theory leaves little room for environmental influence on the course of development: all groups are predicted to go through the same steps, and all are predicted to suspend opinions of what they are about until they have thrashed this out through their own internal processes. Neither do these

theories comment about development-linked changes in group-context interaction. In contrast, the current findings suggest that the outside context may play a particularly important role in a group's developmental path at three points: the design of the group and two well-defined critical periods.

As noted, the speed with which distinctive patterns appear suggests the influence of materials imported into the group. This is congruent with (though it does not test) a viewpoint from the group performance research tradition, that the design of a group (the composition of the team, the structure of the task, the contextual supports and circumstances under which the team is formed) precedes and conditions the interaction that transpires among members (Hackman, 1986). In terms of the current model, the pool of materials from which the team fashions its first framework is set by the design (and designer) of the group.

A critical period is a time in an organism's life within which a particular formative experience will "take," and after which, it will not (Etkin, 1967). Though the analogy is imperfect, there appear to be two critical periods when groups are much more open to fundamental influence than otherwise. The first is the initial meeting. As a time when the interaction in the group sets lasting precedents, it holds special potential to influence a team's basic approach toward its project.

The transition is the second chance. Not only did teams open up to outside influence at this point, they actively used outside resources and requirements as a basis for re-charting the course of their work. The transition appears to be a unique time in groups' lives--the only period when the following three conditions are true at once: members are experienced enough with the work to understand the meaning of contextual requirements and resources; members have used up enough of their time that they feel they must get on with the task; and there is still enough time left that they can make significant changes in the design of their products.

In contrast, teams did not make fundamental changes of course in response to information from their contexts during Phase I and Phase II, when ideas that did not fit with their approach to the task did not appear to register. This does not suggest that teams universally ignore or cut off environmental communication during Phases I and II, but that outsiders are unlikely to "turn teams around" during these times.

The three example teams showed how groups may insulate themselves from environmental input at some times, yet seek it during transitions--partly to get help limiting their own choices and moving forward, partly to increase the chances that their product will succeed in the environment. This raises interesting implications for the debate between theorists who argue that the environment "selects" (population ecology) and those who argue that systems "adapt," (resource dependency). Researchers have already observed that organizations change through alternating periods of momentum and revolution (Miller & Friesen, 1984; Tushman & Romanelli, 1985). Further, organizations commonly construct time-related goals for productivity and growth--monthly, yearly, and five-yearly plans, as well as possibly much longer-term aspirations for their ultimate growth "schedules." It appears worth investigating (a) whether pacing or life cycle issues affect the timing or success of organizational revolutions, and (b) how organization-environment communication (or lack of it) during revolution periods particularly affects outcomes. Interaction with the environment may be much more likely to foster and shape adaptation at certain predictable times in a system's life cycle, and unlikely to do so at other times. If the environment changes dramatically at a time when an organization is also entering a change phase, that organization may be more likely to adapt. Organizations that are instead in a phase of inertia, will be less able to respond, and may be "selected out." Since this study did not include interviews of external stakeholders, or observation of them outside teams' meetings, more research is

needed to study the effects of environmental influence attempts during Phases I or II, versus during transition.*

Limitations of the study. This study must be interpreted with caution. It was hypothesis-generating, not hypothesis-testing; the model is expressly provisional. The analysis was conducted by one person. As Donnellon, Gray, and Bougon (1986, p.54) point out, the use of a single judge is important in discourse analysis, where the goal is to create an in-depth understanding of a whole event; nevertheless, this increases the need for further research. There are also limits on the type of group to which the findings might apply. The transition involves groups' revising their understanding of, and approach toward their work, in response to time limits. Accordingly, results should apply only to groups which do have some leeway to modify their work processes, and which must orient themselves to a time limit. The length of the time span is not expected to matter, though that is a question for empirical research.

Comparison with past findings. Why did this study result in findings so different from the findings of previous group development research? An important possibility is that the paradigm of unitary stage theory directed previous researchers' attention away from phenomena of special interest here. The developmental stage paradigm naturally focuses on the stages themselves, not on the process of change, since all systems are assumed to progress through the same stages in a forward direction. Such events as T-groups' characteristic "revolt against the leader," may be midpoint transitions, but past researchers did not note the timing or think in such terms. The theoretical prominence of the environment is also limited in the traditional models, because it does not alter the basic stage sequence. In contrast, punctuated equilibrium paradigms direct attention to periods of stability and to change processes, provoking questions about what happens within the team, and between the team and its context, during the compact windows of time when systems are especially plastic and labile.

Finally, the traditional paradigm raised different questions about group process. Many past studies conceptualized and examined group process at the microanalytic level of members' sentence-by-sentence rhetoric and speech patterns, whereas this study encompassed the more macroanalytic level of group actions, such as revising plans and contacting outside supervisors. These actions would be undetectable to traditional coding schemes, as would one of the most important "clues" in the study, the one-shot comments about time that group members made as they began their transitions.

Another possibility is suggested by Poole (1983a,b), who found that groups developed decisions (within single meetings) in multiple, not unitary sequences. He proposed that past research did identify the key components of group decision development, but that outside the controlled conditions and broad category systems of past laboratory research, it is possible to see that groups treat these components as blank spaces on an outline, which they may fill in in a variety of sequences, depending on a host of task-related variables. Finally, the nature of the task affects the development of the group (Poole, 1983b). Past research has concentrated on a few types of groups and tasks, with little attention to naturally-occurring groups responsible for creating concrete products for outside use and evaluation.

Action implications. There are many implications of these results for managers working with groups. While traditional theory implies that group leaders have plenty of time at a project's beginning before the group will choose its norms and get to work, this model implies that a group's first meeting will set lasting precedents for how the group will use the first half of its time. This directs group leaders to prepare carefully for the first meeting, and identifies a key point of intersection between group development and group-effectiveness research on team design. Traditional theory next suggests that a group must expect an inevitable "storming" stage. In contrast,

the proposed model suggests using the first meeting to diagnose the unique issues that will preoccupy the group during Phase I.

The proposed model also suggests that a group does not necessarily need to make visible progress with a steady stream of decisions during Phase I, but it does need to generate the raw material to make a successful transition. For example, groups that begin with a clear plan may do best to use Phase I to flesh out a draft of that plan, fully enough to see its strong and weak points at the transition. Groups that begin with a deep disagreement may do best to pursue the argument, fully enough to understand, by transition, what is and is not negotiable for compromise. A leader who discovers, at the first meeting, that the group adamantly opposes the task may do best to decide whether to re-start the project or help the group use Phase I to explore the issues enough to determine, at Transition, whether it can reach an acceptable formulation of the task. (In this case, the leader might want to redefine the group's task as a preliminary diagnostic project, with a shorter deadline.) Once past the first meeting, Phase I interventions aimed at fundamentally altering the group (rather than helping it pursue its first framework more productively) may be unsuccessful because of members' resistance to perceiving truly different approaches as relevant to the concerns that preoccupy them.

The next new implication of the model is that the midpoint is a particularly important opportunity for groups and external managers to renew communication. Again, note that teams and supervisors do not all automatically do this, or do it uniformly well. The special challenge of the transition is to use the group's increased information, together with fresh input from the environment, to revise its framework knowledgeably, and to adjust the match between its work and environmental resources and requirements. This is another point of special intersection between group development and group-effectiveness research, since that research should be especially helpful in evaluating and revising the group's

situation (e.g. Hackman & Walton, 1986). Further research is needed to explore ways to manage the transition process productively.

Once the transition is past, the major outlines of the group's project design are likely to be set; the most helpful interventions are likely to be aimed at helping the group execute its work smoothly. For the external manager, this may be an especially important time to insure the group's access to needed resources.

CONCLUSION

The concepts highlighted here center around the broad theme of change over time in groups' lives. This kind of knowledge about groups is particularly needed now, given the increasing importance of groups in high commitment organizations (Walton & Hackman, 1986), and in young, high-technology industries (Mintzberg, 1981).

The pattern of continuity and change, observed directly in eight groups, also matches a punctuated equilibrium pattern that others have postulated at different levels of analysis. These range from Kuhn's (1962) concept of normal science versus scientific revolution, to Abernathy and Utterback's (1982) description of radical versus evolutionary innovation in industries, to Miller and Friesen's (1980) model of momentum and revolution in organizations, to Levinson's (1978) theory of adult development as alternating periods of stability and transition. Though findings about small groups cannot generalize directly to the individual life, the growing organization, or the developing industry, data about group development should stimulate further learning about inertia and change in human systems more broadly.

TABLE 1

The Groups Observed

Group	Task	Time Span	# of Mtgs.
A. Graduate Management Students: 3 men. ^a	Analyze a live management case.	11 days	8
B. Graduate Management Students: 2 men, 3 women.	Analyze a live management case.	15 days	7
C. Graduate Management Students: 3 men, 1 woman.	Analyze a live management case.	7 days	7
D. Community Fundraising Agency: 4 men, 2 women.	Design a procedure to evaluate recipient agencies.	3 months	4
E. Bank Task Force: 4 men.	Design a new bank account.	34 days	4
F. Hospital Administrators: 3 men, 2 women.	Plan a one-day management retreat.	12 weeks	10
G. Psychiatrists & Social Workers: 8 men, 4 women ^b	Reorganize two units of a treatment facility.	9 weeks ^c	7
H. University Faculty & Administrators: 6 men. ^d	Design a new academic institute for computer sciences.	6 months ^c	25

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- a. The three student groups were from one large, private university.
 b. Two other members attended only once; one other member attended two meetings.
 c. Actual time span (shown) differed from initially expected span (see Table 2).
 d. Team H was from a small university, unconnected with that of teams A, B, & C.

TABLE 2: AN OVERVIEW OF 8 GROUPS' LIFE CYCLES

First Meeting	Phase I	Transition	Phase II	Completion
A. STUDENT TEAM A				
Agreement on a plan.	Details of plan worked out; client's "growth options."	1st draft revised; 2nd draft planned.	Details of 2nd plan worked out; organization redesign.	Homework compiled into paper; finished; edited.
B. STUDENT TEAM B				
Disagreement on task definition.	Argument over how to define task; challenge vs. follow client's problem statement.	Task defined; case analysis rough-outlined.	Details of outline worked out; affirmative action plan (following client's request).	Paper (drafted by 1 member) finished; edited.
C. STUDENT TEAM C				
One member proposes concrete plan; others oppose it.	Argument over details of competing plans ("structured" vs. "minimal") but no discussion of goals.	Goals chosen; case analysis outlined.	Details of outline worked out; "minimalist" U.S. trade policy.	Homework compiled into paper; finished; edited.
D. COMMUNITY FUNDRAISING AGENCY				
Agreement on a plan.	Details of plan worked out; "non-threatening" self-evaluation for member agencies.	1st draft revised; 2nd draft planned.	Details of 2nd plan worked out; explicitly allocations-related reevaluation plan.	Report (drafted by two members) edited.
E. BANK TASK FORCE				
Uncertainty about new products; Federal regulations not clear.	Team "answers questions"; maps possible account features.	Account completely outlined.	Members work throughout bank on systems, supplies for account.	Account finalized for advertising; bank-wide training planned.
F. HOSPITAL ADMINISTRATORS				
Team fires on "trust" theme; uncertain what to do with it for program.	Unstructured trial and rejection of program; possibilities; disagreement about goals.	Complete program outlined.	Consultant hired (plans program); team arranges housekeeping details.	Final preparations delegated.
G. PSYCHIATRISTS & SOCIAL WORKERS				
Leader presents "the given's"; team opposes project.	Sub-group reports presented; members object to alternative plans; leader rebuts objections.	Disagreement persists; Leader picks 1st plan; delegates it out; dissolves team.		
H. UNIVERSITY FACULTY & ADMINISTRATORS				
Team divided on whether to accept project; leader proposes diagnosis as 1st step.	Structured exploration; diagnosis of situation.	Team re-defines task; commits to project.	Computer institute designed (original task) plus system for university computer facilities planning.	Report (written by leader from members' drafts) edited; approved.

TABLE 3
Transition Meetings in 8 Groups

A. Student Team A Day 6 of 11-day span.
Team revises first draft of case analysis; plans final draft.

Opening:1 I think, what he said today in class—I have...lots of criticism on our outline...We've done it--and it's super--but we need to do other things too.

Closing:2 The problem is, we're very short on time.

B. Student Team B: Day 7 of 15-day span:
Team progresses from argument over how its task should be defined, to rough outline of case analysis.

Opening:1 This is due next Monday, right? / 2 Right. Time to roll.

Later: 3 Not bad! We spent one hour on one topic, and an hour on another!... We're moving along here, too. I feel a lot better at this meeting than I have--

4 Well...we're also making decisions to be task-oriented, and take the problem at its face value--

C. Student Team C: Day 4 of 7-day span:
Team progresses from argument over details of competing plans (with no discussion of overall goals) to goal clarification & complete outline of product.

Opening:1 This morning I re-designed the whole presentation! I don't know what the content is, but--

Later: 2 (Surveying blackboard): OK--we've got goals! Those are the U.S. goals for [x topic]. [...] The [outline for the paper is] the lead-in, the goals, and the strategy.

3 That makes sense! / [...] / 4 I like it!

D. Community Fundraising Agency: Meeting 3 of 4, pre-set meetings.
Team revises first plan for evaluation procedure; agrees on final plan.

Opening:1 Does anyone have any problem with the...evaluation draft?

2 Let's be realistic--we don't have the staff time to sit down with each [recipient] agency every year.

3 What are we accomplishing, then?...We need to know [X]. Otherwise I say, "don't bother!"

Later: 4 (Summing up a revised version of the plan): If you tell [member agencies] they will be evaluated...and these are questions you'll be asked, so--get your baloney swinging--! [Laughter from team] OK. Let's move on, otherwise we're going to get behind.

E. Bank Task Force: Day 17 of 34-day span:
Team progresses from "answering questions" to designing complete outline of new bank account.

Opening:1 I just hope we don't get stuck, toward the end, without--

2 What are we gonna do--just--answer a lot of questions today? --or--

3 [...] Basically, we're gonna lay out the characteristics of the account.

Closing:4 Oh, I think that's super! / 5 I think we got a good product!

F. Hospital Administrators: Week 6 of 12-week span:

Team progresses from uncertainty, disagreement about goal, to complete program plan.

Opening:1 ...we need to...come up with [something to] bounce off Tom next time.

Closing:2 We are making progress! I was afraid we weren't moving fast enough!

3 We've made progress, folks!

G. Psychiatrists & Social Workers: Week 9 of 17-week span:

Leader chooses 1 of 3 reorganization plans to break stalemate; dissolves team.

Opening:1 Is [plan A] a reasonable way to go? That's the question.

Closing:2 We are nearing the completion of our task...the next step is turning [the work] over [to Dr. C.]. [...] There is disagreement in here, [but] I think...we have to come down...(on one plan). [...] Then we are--dissolved...Thank you.

H. University Faculty & Administrators: Week 7 of 14-week span:

Team redefines task; progresses from skepticism to commitment.

Opening:1 ...the task force reached a crossroads last meeting...and decided it [must choose] whether it should [continue with its original task] or consider the overall needs. For that reason, we've asked 2 people at the vice-presidential level to...help us deliberate that question.

Closing:2 I think we've...reached a conclusion today, and that is, we need to include the administrative end [in our task].

3 Hey, I think we're finally giving Connie some good stuff here!

Isn't this typical? You go through, you roll along, and then all of a sudden you say, "What are we doing?" Then we go back and reconstitute ourselves! Anyway, processes are taking place!

FOOTNOTES

1. This work was called to my attention recently, by a reviewer.
2. This paper uses the dictionary definition of inertia as the tendency of a body to remain in a condition: if standing still, to remain so, if moving, to keep moving on the same course.
3. Three dimensions of a group's stance on a task emerged from the data: members may accept vs. object to the assignment; may be certain vs. uncertain what to do about the task; and may converge vs. diverge with each other about these things. The dimensions may be arrayed in a 3 X 2 matrix to suggest a number of potential answers to the question "Where do we stand?" ranging from strongly divided about what a task means and whether or not to accept it, to enthusiastically in favor of the task and agreed on a specific plan for handling it. The three dimensions are primarily concerned, respectively, with members' approaches toward context, task, and internal interaction, yet they are closely intertwined.
4. All names used in this report are pseudonyms.
5. The notation "E2:1" identifies the excerpt (E2) and lines (:1) of dialogue.
6. Two additional indicators of transition, a pre-transition low point and a change in groups' routines, are not covered here because of space limitations. A discussion of all 7 indicators is available in Gersick, 1984.
7. For example, Team H decided to schedule a special meeting to confront top administrators about its mission. Just after that the leader received two independent requests from administrators to change the team's direction.
8. Gersick (1983) does include and discuss additional evidence of teams dismissing or "not understanding" outside requirements during Phase I and II.

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