"In the beginning there was nothing. Then God said, 'Let there be light.' There still was nothing, but you could see it a lot better."

— Ellen Degeneris —

# Accelerating a Team's Developmental Process

By Dr. Richard E. Daly & Dr. David Nicoll

Bruce Tuckman's "Forming, Storming, Norming and Performing" model of team development had been around for a long time1. One of several life cycle models, Tuckman's approach-over the course of the last 40 years-had proven itself to be reliable in describing how a group of individuals evolve into a team. However, from a practical perspective, Tuckman's model carries with it the same weakness any theoretical model carries (i.e., it offers a series of elements that characterize and identifiable sequence, but these elements, by themselves, don't explain the sequence in casual terms). In other words, Tuckman's behavioral stages do seem to consistently appear together in real life, but we don't know why.

Experienced professionals in the field of Organizational Development know this. Time and again, in teams of all types, they have seen Tuckman's sequence repeat itself. But, group to group, they can't predict the duration of each phase with any degree of certainty, nor can they forecast the intensity of involvement within each phase. Likewise, when using Tuckman's model, they can't foresee the exact form that a team's structuring will take (e.g., sub-groups, roles, rule-based task segmentation, etc.). Nor can they know the character of a team's performance until it occurs. The net result is that Tuckman's model is useful for educating clients, in general terms, about what's to come. This, of course, helps the team avoid overreaction to what, in reality, are "normal" conditions. But, after this, there is little that Tuckman's model has to say about what needs to be done, either to resolve difficulties in progression, or in assessing effectiveness. Given these gaps, there is room for more accuracy and predictability in the Tuckman model then presently exists. Showing how we might begin filling these holes is what this article is pursuing.

### Organization Engineering Theory

The recent emergence of Gary Salton's theory of Organizational Engineering promises to give us a way to shed new light on Tuckman's model.2 Using Salton's insights, we may be able to predict, for any given group, what will happen during each phase of its development and even influence this progression. For instance, given Salton's new model, we seemingly can now make accurate predictions that a group will make in terms of the duration and intensity of each of the developmental phases. More importantly, the insights yielded by Salton's specifica-

tions and predictions look like they can be used to actually guide a group through each developmental phase so that benefits can be realized earlier and at a lower cost.

Dr. Salton published his book, A New Method of Creating High Performance Human Structures, Organizational Engineering, in 1996. The theory base on which his technology is founded comes from information processing. Rather then psychology, Salton uses cybernetic concepts to understand, explain and predict the behavior of human groups.

For Salton, the key to deciphering human systems-including teams-lies in recognizing that human beings, to simply negotiate life, must continually make decisions. The focal point, however, is not the decisions an individual makes, but rather the strategy that he or she uses to sort and process information so that a decision can be made. A simple example will illustrate Salton's premise.

When you got up this morning and opened your closet door, you were faced with a decision-what should I wear?3 Now,

for some of us, this is a hard enough decision in its own right. But, can you imagine how difficult it would be if, each time you had to decide what to wear, you had to step back several levels of abstraction and decide how you were going to decide? Think about this. First, you would have to consider all of your decision-making options. For instance, (1) you could grab the first thing you see: or (2) you could analyze the day you expect to have and base your clothing decisions on that, or (3) you could choose to be spontaneous and innovative with your outfit; or (4) you could follow a pre-planned guide, whether it was based on your wash day, your dress code at work, or any other plan

Next, you would have to pick one of these methods. And finally, you would have to use this method to make your decision.

The point here is this: if your decision making style weren't already unconsciously patterned, you would have to choose a

way of deciding each time you wanted to make a decision. For instance, in getting dressed, you would have to run through your options for you shirt. And so on, for your socks, for your tie, for your hairstyle, for you breakfast, for your route to work, for your parking place, etc. Having to decide how you are going to decide each time you need to make a choice would take a lot of time and energy. Too much time and way too much energy.

Obviously, this is not the way we're organized. Humans are not stupid. We recognize the heavy cost of having to continuously decide how to decide, and we conveniently develop in our unconscious a clearly patterned decision-making strategy. Once this strategy is in place, it dictates the kind of information we seek, how much of it we need, how we process the information we get, and the kind of outcomes we prefer. In effect, our preferred strategy determines the kind of information we receive, the type of processing we employ and, to a large degree, the kind of actions we take. In short, once they're developed, our decision-making strategy drives everything we do, either individually or collectively.

Salton believes that the reason individual processing strategies are important to the development of groups is that, when in a group, each person's output is somebody else's input. Consequently, if your output is not aligned to the input needs of your "receiving" colleagues, the ability of your group to effectively address a common purpose is compromised.
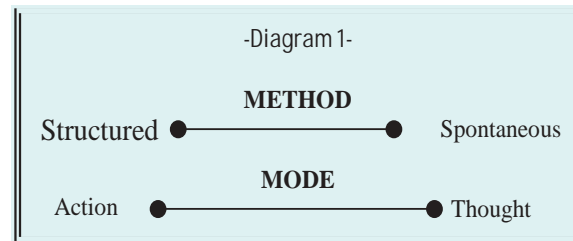
Assume, for example, that one team member, through her decision-making strategy, values the speed at which an issue is resolved, is willing to accept risk, and tends to ignore detail in order to real-

ize her objectives. Further assume that another team member, through his decision-making strategy, values the certainty of outcome, the predictability and consistency in human interaction, and pays careful attention to each nuance of an issue confronting him. Now imagine that the high-speed risk taker is "aligned" as the input source for her rock solid counter part. Might you expect problems? Do you think, for instance, that the deliberate, methodical person will be happy with the kind of information he receives from his more spontaneous partner? Conversely, do you think that our risk-taker is going to be pleased with the length of time it takes her partner to evaluate her input. Doubtful.

For Salton, there is nothing right or wrong about a person's decision-making strategy. Speed in decision-making has value. Certainty of outcome in decision-making has value. Certainty of outcome also is a desirable quality. Ad infintum. For Salton, what matters is a group's performance, and for him, this means that arranging and sequencing decision-making styles correctly is the key to improving a team's output dramatically. Moreover, this improvement can be made quickly because people do not have to be changed, just "aligned" according to their strategic decision making preferences. In fact, the heart of Organizational Engineering is aligning the strategies of the participants so that the output of one person is matched to the input needs of the other people in the team.

In his book, Salton identifies two information-processing dimensions that-when understood-facilitates this alignment (see Diagram 1). They do this by providing reliable information on how people in groups can optimally organize themselves. The

first dimension is the "method" dimension, which addresses how people assess issues. This dimension, in fact, is a contin-

-Diagram 1-

**METHOD**

Structured ●————————● Spontaneous

**MODE**

Action ●————————● Thought

uum. At the left end of this continuum is a structured assessment methodology. Here, the person employs a predefined approach for processing information. People like this are organized in their approach, and the predefined methods they prefer are usually characterized by attention to detail and a methodical pace. At the other end of the continuum is a spontaneous strategy, one which targets a "satisfying" response. People like this typically ignore detail and are characterized by speed. These two "methods" are very different.

Salton's second dimension, the mode dimension forms a continuum with a preference for action housed at one end of the continuum and thought at the other. This dimension describes and individual's preferred response to the information they're processing. This dimension essentially describes the process a person uses in "digesting" information since it gives the process direction. A process targeted at creating a new concept (the "thought" mode) can be expected to differ strongly from a process targeted at immediately and directly influencing the outside world (the action mode).

Salton believes that human beings-when "thinking" things through-combine these two dimensions into a style. This integration creates four "archetypes" (see Diagram 2):

1. **Reactive Stimulator (RS):** This strategic posture uses an unpatterned method and an action mode. Input needs are minimal, processing is fast, and output is focused on action directly affecting the external world.
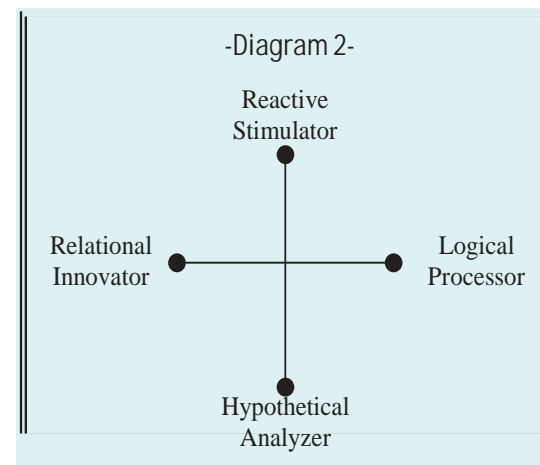
2. **Logical Processor (LP):** This posture uses a structured method and an action mode. Input needs are detailed and large. Processing is typically measured, since much needs to be processed. Output is focused on action directly affecting the external world.

3. **Hypothetical Analyzer (HA):** People using this strategy employ a structured method and a thought mode. Information needs are substantial. Processing is typically slow since contingencies must be identified, consequences assessed and reaction plans structured. Output is focused on thought, since the external world will not be effected until the plans they create are executed or the judgments finalized.

4. **Relational Innovator (RI):** This strategy uses an unpatterned method and a thought mode. Information needs are minimal and typically disjointed. Processing is rapid as bits of information are quickly strung together. Output is focused on thought since the typical responses is an ideal in relatively pure form.

In reality, these types are not mutually exclusive; people can be, and usually are, combinations of all four types. However when facing issues that do not clearly call for a specific response; they

-Diagram 2-

Reactive Stimulator

Relational Innovator — Logical Processor

Hypothetical Analyzer

tend to favor one of the four archetypes. The degree to which they favor one or another strategy determines their typical- and, for outsiders-their expected response to issues.

A review of these strategic archetypes reveals certain commonalties. The Reactive Stimulator and Logical Processor share a focus on action while the Hypothetical Analyzer and Relational Innovator both emphasize thought. The RS and RI share the use of unpatterned methods, while the LP and HA both employ structure and logic to realize their goals. Salton shows how the characteristics of each of these four archetype gives rise to very different personal behaviors, which then influence communication characteristics, subsequent interaction patterns, and finally the performance of groups. Table 1 (on opposite page) shows the preferences of the strategic archetypes in terms of traditional management functions.

## Explaining the Tuckman Model

Salton's theory, especially his archetypal strategies, helps us understand why, in a team-building sense, Tuckman's model is so accurate and useful. By using an information processing model, rather than the psychological one, we as OD professionals can see each stage of Tuckman's model as the behavioral expression of a particular set of decision-making strategies. Let's look at this more closely.

### The Forming Stage

Forming is the exploratory phase of team development. Here, team members search for the parameters within which they, as a unit, will work. This is usually accomplished through the prism of group purpose, which centers the members' discussion on the tasks to be done, what Is needed to do them and just how these tasks will be accomplished. The group, in information processing terms, is exploring the issues confronting it in terms of the kind of team "output" most likely to bring success, the kind of input necessary to realize that output, and the probable information processing strategies it will need to use to get from input to output.

In this stage, organizational work issues do not come with clear signals as to the most appropriate decision strategy for resolving them. For example, a team goal of designing a new engine might be met by any one of several different strategies.

1. Rapidly assembling components readily at hand:

2. Carefully researching available components and choosing the most appropriate.

3. Analyzing the engine's use and defining exactly the components which would be, or;

4.  Inventing an entirely new propulsion technology.

Each of these strategies reflects the style preferences of one of Salton's four different archetypes. A rational argument for the correctness of each of these approaches could be made; there is merit in each. More importantly, for any given task, no one information processing style is obviously better than any other. Consequently, in all new groups, we see the cautious, tentative and civil behaviors that characterize the Forming stage. This civility is a natural outcome of a group of people trying to integrate their various information processing styles. In cybernetic terms, people are carefully trying to determine six things.

If their preferred type of output will be welcomed or resisted in light of the specific issues confronting the group;

if the kinds of information they need to realize their preferred outcome will be available from other team members;

the kind of arguments which might persuade or compel the group to accept their preferred course;

the current position or preferences of other team members so as to identify and cultivate potential allies;

the kind of resource other team members represent and;

the degree of rapport that might later be converted into support;

In this context, civility and tentativeness is preferable to insisting on one's own style. The politeness of the Forming stage is simply an outcome of people attempting to implicitly discover how their preferred strategic style fits into the group endeavor-

both with the other people and with the mission

Organizational Engineering theory can be used to predict even more detailed aspects of the Forming process. For example, the theory predicts.

1.  The greater the difference in the strategic style preferences among individual team members, the longer the forming stage will take. There is simply more "ground" to cover;

2.  The more action-oriented the members' strategies are, the greater the likelihood the team will define the task in terms of "what is to be done" instead of "how it's to be done."

3.  The more thought-oriented the group strategy is (HA and RI), the greater the likelihood that the group will tend to address the question in terms of "what mission are we trying to accomplish?"

4.  The clearer the response called for by the group's objective, the shorter the forming process, i.e., people are smart; if speed is paramount, everyone will try to summon the RS resources that they have available.

This list could go on. The basic point is this: If a team can determine the range of its information processing/ decision-making styles in advance, the probable length of their forming process can be estimated. Using this information, accurate project schedules can be prepared, appropriate levels of external support can be determined (e.g., consultants or facilitators), and the efficiency of the team improved.

This has been demonstrated in practice. A data systems firm was involved in a reengineering project at one of their larger facilities. The group's facilitator used Organizational Engineering technology to help the group members understand each other's "method" and "mode" pref-

erences at the initial team meeting. The results of this intervention were very encouraging. People who, in inter-personal terms, did not know each other at all, began coalescing into a functioning unit almost immediately because of the practical information they had on each other's approaches.

### Storming Stage

The "Forming" stage has to do with generalities and overall approaches. The "Storming" stage is involved with particulars. At the beginning of the Storming Stage members know the team's task, know something about each other, and are beginning to address specific, actionable issues. Tuckman describes this phase as involving arguments, posture taking, and clique forming, all of which are accompanied by feelings of turmoil, passion and agitation.

In cybernetic terms, this is an entirely predictable outcome. By the end of the Forming stage-absent any OD interventions---team members have roughly dimensioned each other.  Possible allies, i.e., those who have similar strategic style preferences, have been identified. A sense of what other members need to increase positive interaction has been secured, and the overall "lay of the land" is known. This then, is the time that individual members try out a position and attempt to define the team's situation in terms most comfortable to them. In other words, each person is attempting to lay out a group approach that conforms with their specific, individual information processing and decision-making strategies.

For Salton, the "storminess" of the Storming phase is largely determined by

-TABLE 1-
Strategic Posture Preferences

| | Reactive Stimulator | Logical Processor | Hypothetical Analyzer | Relational Innovator |
|---|---|---|---|---|
| **PLANNING** | | | | |
| "Natural" focus | Tactical | Operational | Strategic | Conceptual |
| Approach | Linear | Linear | NonLinear | NonLinear |
| Scope | Broad | In-depth | In-depth | Broad |
| Plan Form | Informal | Formal | Formal | Informal |
| Detail | Minimal | High | High | Minimal |
| **ORGANIZING** | | | | |
| Preferred Span | Broad | Narrow | Narrow | Broad |
| Communication | Informal | Formal | Formal | Informal |
| Delegation to: | Individual | Individual | Group | Group |
| Documentation | Minimal | Extensive | Extensive | Minimal |
| **CONTROLLING** | | | | |
| Change | Eager | Cautious | Cautious | Eager |
| Measurement | Informal | Formal | Formal | Informal |
| Methods | | | | |
| Control Focus | Symptoms | Sources | Symptoms | Sources |
| **LEADING** | | | | |
| "Doing" vs. Managing | Doing | Doing | Managing | Managing |
| Orientation | Task | Task | People | People |
| Probable Charisma | High | Low | Moderate | High |
| Power Preferences | Informal | Formal | Formal | Informal |

the nature of the mission. The storming phase begins the pursuit of group goals. If these goals are structured so that they are not individual, but rather unmistakably collective, and the team's attention is focused on their information processing issues, the character of this phase will likely be more cooperative in nature (although still fraught with disagreement)

Take an extreme example: If the professional survival of each team member depends on the achievement of a specific objective that was beyond the capability of any single team member or subgroup, it's likely that a spontaneous "team" would form to pursue this goal with a minimal amount of "storming". Self-interest, group interest and corporate interest would be aligned. However, if the team's goals were not clear and pre-emptive, Organizational Engineering predicts that the greater the degree of divergence between styles favoring thought and styles favoring action, the larger will be the need for discussion, and consequently, the longer the duration of this phase of the process. This is because people with different decision-making styles are offering different courses to the objective. Those favoring action will tend to advocate relatively shorter-term outcomes that will "solve" the problem but may not be optimal. People preferring "thought" are willing to invest in more study and assessment in order to gain a return of either more optimal, or more certain, results. All involved can argue their position with "right" on their side. In the cybernetic context, there is no wrong.

Thus, reconciling these divergent direc-

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tions can be expected to generate conflict since the members' underlying personal objectives (e.g., speed versus certainty) will not be explicitly recognized or articulated. More likely, differences will be attributed to personality, ignorance, gender, functional specialization or some other visible cause. The responses to such verbalized attributions or inferences can be expected to be highly emotional-with some cause-since the attributions are not necessarily true.

Using Organization Engineering's model, we can make other predictions about the intensity of discussions at the Storming stage. For example, the more exaggerated the profiles of the individuals involved in the team are, the more intense the discussion. An exaggerated profile means that a person tends to view the world in terms of one particular set of preferred inputs or desired outputs to the relative exclusion of all other perspectives. For example, a person who is strongly wedded to the Hypothetical Analyzer style can be expected to be committed to fully understanding the issues. This requires study and time. A person equally committed tot he Reactive Stimulator style (spontaneous action) will value the speed at which an issue is resolved above everything else, and willingly accept an approximate solution to an issue in order to achieve it. One person values under-standing and is willing to sacrifice speed, the other values speed and is willing to sacrifice understanding. While these differences are unconscious, it is inevitable that their discussion will be heated.

A claims department of a health insurance company in North Carolina illustrated the accuracy of these "Storming" phase predictions. This team was stuck in a perpetual "storming" model. Coalitions had formed; feelings ran rampant. Suboptimal positions were routine as individuals and groups took an "us versus them" posture. After many weeks in this mode, a consultant was hired. As her first step, she administered "I Opt"™ Survey4 to identify the participants' preferred information processing styles. Once this survey was completed, processed and returned to the participants, the group assembled in a room. At this point, the team leader using the information that the "I Opt" study provided her-explained her style to the group. Specifically, she told the group what was driving her actions (a high value on speed), what she wanted to achieve (tangible results) and the kind of information she needed (minimal detail). Then she sat down. Spontaneously, each member of the group followed her lead, sharing his or her preferences using the "I Opt" paradigm as a framework. The consultant just sat in the back of the room.

The next day people approached the consultant describing the results as a "miracle". The consultant recognized that all she'd done was provide the members' with crucial information processing data that allowed and helped people discover how to get themselves "aligned". None of the team had changed his or her style. Each person's information needs and output preferences had been made known, and the fallacy of their personal attributions had been revealed. They could now conse-

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quently talk to each other in a language that was neutral, and understandable, but one that still could help them make useful team-oriented adjustments. Consequently, they aligned themselves.

### The Norming Stage

Norming is an important stage of team development, especially for long-lived teams. Norms are the benchmarks which drive team development. Norms take action into account both the mission (i.e., the destination) and the resources (i.e., people, money, time).

Inappropriate or ineffective norms mean inefficiency or ineffectiveness. With the good norms, a team begins coalescing. People begin working cooperatively, developing ground rules and start abiding by them. Conflict resolution strategies are developed and productive, work-related discussions occur more frequently. With poor norms, the opposite results.

OE predicts that the evolution of norms is heavily dependent on the character of the team's mission. Common destiny is a key component in Salton's definition of a team and has a large role to play in this phase. Common destiny refers to a condition where each and every team member shares the benefits and the costs associated with the success of the team. If any person of sub-group does not share both the up-and down-side, it is unlikely that viable team norms will form.

For example, assume that a group begins creating a norm "completing the

job." The RS will interpret this as a tangible product, physically delivered, which satisfies the basic need. The LP will agree with tangibility and delivery but will not consider the job complete unless it is done "right" (i.e., close to optimally). The HA will interpret this as a complete plan which covers all contingencies, selects an optimal course and is ready for implementation. The RI feels that the norm has been satisfied if he or she comes up with a ground-breaking idea that is celebrated and embraced by each and every team member. Same norm, different interpretations. The greater the unconscious divergence in the information processing postures of team members, the greater the likelihood that misinterpretations will be evident in the team's normative structure. This conflict will drive the emergence of conflict resolution mechanisms.

Organizational Engineering also predicts the norms a particular team will adapt. Looking at the "overlap" (i.e. the similarities or differences in style preference) between individual members, and then determining the area of common agreement or dispute among them, gives a good indication of the norms a team will develop.

For example, assume that the team is entirely composed of people subscribing to the RS strategic posture (see Table 1). Everyone has a short time horizon; accordingly, the probability that the team will create norms that focus on long-term goals is low. Everyone is action oriented; the probability that the group will create norms supporting a careful examination of the environment, a thorough specification of all options and the creation of a comprehensive plan is also very low. Everyone values speed; the information in Table 1

can be used to predict the norms any particular archetype will prefer. Similarly, it can be used to predict the kinds of conflicts that norms will emerge to handle.

### The Performing Stage

One principal reason for performance failure is the character and structuring of the group relative to the specific objective they seed to address. For example, look at Table 1; and imagine a team of people who subscribe to the RS posture. The project that they have been assigned is laying out a detailed marketing plan, one involving millions of dollars and aligned to penetrate a new continental market. Now let us imagine how this team might progress through Tuckman's stages.

The whole room is full of people of the RS type. Consequently, they probably will go through forming almost instantly, since everyone will agree that everyone is thinking the "right" way. Storming will be minimized as well, because everyone will agree that speed is important and that tangible outcomes are what counts. Norming will be effortless since the RS typically does not like rules and tends to ignore structure. Given all this, this group will speed successfully through the first three stages. But, what do you think the probabilities are of the group as unbalanced as this one (here, in favor of speed) is likely to miss something important.

Obviously, this is an extreme case. It is unlikely that any firm would herd a group of people like this together for a significant propose. However, it's completely possible that a firm could inadvertently weigh a group with people who, in cybernetic terms, are inappropriate to the task at hand. To the extent that it does, the proba-

bility of success will be compromised and the achievements of a successful "performing" stage jeopardized.
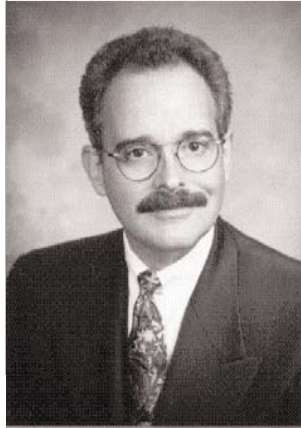
Given this, Organizational Engineering takes a stop beyond Tuckman, suggesting that the more "aligned" the decision-making styles of the group are with the mission it is assigned, the more successful the outcome will be. This information processing approach shows that the conventional prescription for a balanced team is a recipe for mediocrity. Think about it. Do you really want the surgical team that will be cutting into you brain to be "balanced"? Doctors who are innovative risk-takers and get a lot of creative but unproven ideas on the spot? Organizational Engineering points out the importance of aligning the group's decision-mailing style to its primary task. Mixing the right strategic decision styles, combined with successfully progressing through Tuckman's four stages, is what produces teams of consistently high productivity.

### Summery

The Tuckman model is still useful. Organizational Engineering theory does not contradict any part of it. Rather, it helps explain why the phases occur in the sequence they do and why the characteristics associated with each phase arise. It also helps predict the duration and intensity of each phase. All this, when used effectively, can put an OD practitioner in a position where they can effectively influence the outcome of a team's development process in a productive direction.

## Footnotes

1   Tuckman, Bruce W. "Development Sequence in Small Groups," Psychological Bulletin, 1955.

2   Salton, Gary J. *Organizational Engineering: A New Method of Creating High Performance Human Structures*. Ann Arbor, Professional Communications Inc., 1996, and ODP volume 28, #4.

3   This example was excerpted with permission. Salton, Gary J. *The Organizational Engineering Approach to Team Building,* Ann Arbor: Professional Communications Inc., 1997.

4   "I Opt" Survey™ is a trademark of Professional Communications Inc., Ann Arbor, MI.

Richard received his doctorate in Organizational Behavior from the University of California, Berkeley. He has taught management, organizational behavior and organization development courses at UCLA, UC Berkeley, the University of San Francisco, University of Phoenix the University of Oklahoma and the University of Redlands.

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