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PERSPECTIVES ON THE MANAGEMENT OF DIVERSITY;
A DYNAMIC VIEWPOINT

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by

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Abstract

This paper makes an argument for extending our current thinking about the management of diversity. An attempt is made to show that current views about the management of diversity could be enhanced by the inclusion of both systemic and dynamic aspects. After current diversity thinking is reviewed, the most basic strategic system is composed using a systemic and dynamic orientation. Afterwards, a research agenda to delve into this view of the management of diversity is proposed. This is the second paper in a two paper series that attempts to map out a view of the management of diversity. This view serves as the conceptual underpinning for empirical work being conducted in the Texas Banking industry. This empirical work is forthcoming.

The field of strategic management appears to be at a stage where it can begin to assess various views about the management of diversity. By the management of diversity, the author means the design and implementation of strategic capability and viability through time in environments that are complex and turbulent. The purpose of this paper is to offer a review of current thinking about the management of diversity. Also, its purpose is to offer a complimentary view about the management of diversity that draws on certain basic notions from systems theory and systems dynamics (Forrester, [1961]; Morecrott, [1983]). Since not much work using these notions has been done in the area, a derivative purpose is to offer a framework to view the management of diversity from a systems perspective and to offer hypotheses for research.

I. AN OVERVIEW TO CURRENT THINKING ABOUT THE MANAGEMENT OF DIVERSITY

The author makes the premise that current thinking about the management of diversity could be enhanced by the inclusion of a dynamic and systemic component. Current thinking, as exemplified by Lawrence and Lorsch (1967), Rumelt (1974) and the studies that were extensions of this work (Pitts, 1976; Bettis, 1981; Christensen and Montgomery, 1981) to the Lenz (1980), Litschert and Bonham (1978) and Montanari (1979) work, to extensions by Dess (1980) and Bigler (1982) and Zeithaml and Frye (undated), all present extant thinking and methodology. Those works will be reviewed in due course. However, it should be mentioned here that while the works of Pitts, Bettis and Montgomery are substantively different than that of Lenz, Dess, Zeithaml and Frye, Bigler and Keats (1983), they all delve into what the writer calls the management of diversity. To date, all of these studies have been couched in correlational terms (with the exception of Keats, 1983) and usually a corresponding "correlational" conceptual ground is offered from which to deduce key assumptions

and premises and to stipulate more exacting causal hypotheses.¹ In other words, to date, we really have had exploratory (and descriptive) research. This could be partly responsible for the inconsistency in findings of this past research and the paucity of developments that would help to generate various mid-range theories of the management of diversity. So what current thinking about the management of diversity omits is at least one of the following:

1. Systemic Orientation: Some studies omit a sufficient number of constructs so as to preclude assessing cause and effect.
2. Dynamic Orientation: Some studies are cross-sectional only. As such, one cannot study the effects of time and feedback on either correlational or cause and effect relations.

The author is not being critical of the efficacy of this past research. Indeed, it is on the shoulders of this past research that this author, or others, can begin to develop complimentary views of the management of diversity. What follows is a review of current thinking and then the presentation of an alternative but complimentary approach.

II. CONVENTIONAL VIEWS OF THE MANAGEMENT OF DIVERSITY

First, the author presents an explication of key models and frameworks that can be characterized as conventional thinking about the management of diversity. After a representative sample has been presented, then a position on what the implicit key assumptions of this research are can be forwarded. Finally, a summary statement of what we tentatively know from this research can be presented.

A. Models and Frameworks of Conventional Research

The first key study that can be categorized as dealing with the management of diversity is that of Lawrence and Lorsch (1967). As has become common knowledge, they found that the optimal degrees of both differentiation (diversity) and integration for high performance depended on the type of environmental turbulence and uncertainty that managers perceived. While the model they used was systemic in its orientation, (because it included an operationalization of environment and performance) the particular ways in which these constructs were operationalized caused debate. That debate is not the subject of this review though. Given the arguments that will be made below on behalf of a more dynamic view of the management of diversity, one observes that the Lawrence and Lorsch study did not allow for the consequences that feedback to this system can have on changing the relationships found during successive time periods. This observation is one that will apply to all of the conventional frameworks presented here. The work of Rumelt (1974) and the derivative research that followed (Pitts, 1976; Bettis, 1981), while tremendously powerful, did not provide enough constructs from which to assess issues of cause and effect. These studies sought to delve into the relationship between diversity, as operationalized by relatedness in diversification and the attendant degree of divisionalization, and performance. While recent extensions have included measures of risk in the overall construal of performance, these studies are still bivariate if one delves into the constructs that are being studied. Essentially, diversity and performance (or risk/performance) are the two bivariate constructs that are being studied. As in bivariate correlations between two variables, it is difficult to discern cause and effect relationships between them. If one will grant this position, then it is incumbent upon the field to ask what we can use to understand the relation between

diversity and performance in causal terms. While a more complete view will be given below, what we can add is a construct that can be construed to drive or cause both of the constructs of performance and diversity. One such construct could be the environmental contingencies that impinge on the firm. Christensen and Montgomery (1981) extended the previous Rumelt, Pitts and Bettis work by adding certain industrial organization concentration variables. These were proxies for certain environmental contingencies. However, Montgomery's work was cross-sectional and as such did not delve into the dynamics of the system through time. These contingencies, argued for below, could help to make salient the concern for diversity in the first place. The work of Montanari (1979), Litshcert and Bonham (1978), Bourgeois and Astley (1979), Lenz (1980), Dess (1980) and Bigler (1982) was done to try to add constructs that could begin to assess cause and effect. Essentially, this research added other constructs (primarily environment) but also other managerial choice variables (Child, 1972) such as power and cognitive limitations (which actually condition choice), to give the study of the management of diversity a more systemic character. While this certainly added to the amount of variance explained for performance, these studies were performed in a series of bivariate manipulations between pairs of constructs (even though the regression equations used to explain performance used all of the constructs simultaneously). All of these studies were also cross sectional in that no explicit tracking of these systems of variables through time was attempted. Recently Keats (1983) has added analytical power to understanding an Environment, Strategy Performance model by using LISREL for analysis. LISREL (Joreskog and Sorbom, 1979) is an algorithm used to discern causal linkages in a theory derived system of variables. It has the power of discerning these relationships by delving into the system as a whole. The strength of using LISREL for analysis is that it can

show that certain bivariate relationships may disappear in the context of a system of variables and thereby help one to discern cause and effect. However, Keats (1983) research did not delve directly into feedback loops through time which might alter relationships among variables over a given time frame.

While more research could be cited, the author feels that it is representative of current concepts and methodology. To sum up, each of the studies above omits at least one component of a more systems and dynamic oriented view. This omission takes the form of, first, lack of inclusiveness of constructs or hypothesized relations. Some studies also lack explicit inclusion of feedback information that can change the nature of the relations over a given future time period. Tangentially, this omission also takes the form of the lack of theoretical notions of why the system should work in the manner in which we see that it does. In other words, even though most of these studies attempt to explain performance, they are still descriptive in the sense that only a "correlational" conceptual ground has been given that can persuasively give us the whys for the various hypotheses. If the researcher and the practitioner have only the need for one period studies that are essentially descriptive (which has the admirable feature of being parsimonious), then current thinking about the management of diversity is entirely appropriate. The next section will give a summary view of the key assumptions (which have to be inferred) that gives this conventional research meaning in the larger context of supplying knowledge to our field. These assumptions will then be compared to the assumptions for a more dynamic and systemic view of the management of diversity.

B. Assumptions of Conventional Thinking

By one interpretation of the research reviewed above, we can infer the following assumptions that must be held by current thinking so as to make that position useful in terms of providing knowledge to the field. They are:

1. Admissible knowledge can be had by delving into the parts of a system and summing this information over the parts.²
2. The whole of the system can be gleaned from the summation of the parts. As we have seen from the above review, the number of hypothesized parts to the strategic system has increased over time.

C. Major Findings of Conventional Thinking

In general, the major finding that has emerged from conventional thinking about the management of diversity is that strategic diversity, as measured primarily by the degree of unrelated diversification, has a curvilinear relationship to performance, usually measured as return on assets. That is, there appears to be some optimal level of diversity that gives rise to high performance or to the optimal degree of risk and return. Also, if one extends the notion of diversity to include structural diversity, cognitive diversity, to ever newer concerns for venturing (Burgelman, 1983), one still gets the same generic prescription. There appears to be an optimal, balanced level of these elements of diversity required for high performance. The findings from the various studies cited above are sometimes conflicting and because of different modes of operationalization the findings are sometimes incomparable.

D. Critique

As useful as this current thinking has been to the development of the field, the author makes the position that the field is ready to consider a complimentary view of the management of diversity. The very statement of the

main finding above presages what might need to be added to our view of the management of diversity. We see that there may be an optimal level of diversity, but what determines this level? As we have said, it is difficult to discern cause and effect in the findings from past research. In other words, what are some of the key constructs that can be thought to condition the design and emergence of strategic diversity? Also, we see in some of the studies cited above (Bigler, 1984 for example), that there is the tendency to follow a building block approach. That is, constructs are added that are thought to have explanatory power. While useful, this approach may suffer from providing too much to the analysis. In other words, constructs may be added that, in isolation, are thought to have an effect on the dependent variable of interest for a given time period. What may be ignored is the crossing out effect that may happen in a real system when all of these constructs "happen" at once and at successive time periods. So, we may in fact have the occurrence where feedback nullifies the effects of some variables through time. Since past diversity research has rarely dealt with feedback (with its attendant time dimension), this possibility has rarely been a direct issue.

If one adds up the essence of this critique, we may come to view that we could include the following additional constructs in the research on the management of diversity:

1. Specific inclusion of conditional constructs.
2. Inclusion of feedback loops with an attendant time dimension.
3. The isolation of key constructs that can be thought to provide the most leverage in understanding the eventual effect of this system on the construct of performance through time. We usually think of parsimony in pruning variables as omitting a variable from an analysis if it has a high bivariate correlation with another variable. If we

can begin to study a strategic system dynamically (through time), then we may be able to exclude a group of variables if their effects cancel each other out through time. What could emerge then from this process of pruning could be the variables that give us the most leverage in understanding the system through time.

If one will grant this position, then one way in which to incorporate the above is to develop a more dynamic and perhaps systems view of the management of diversity. The next section will take one such view up.

III. A DYNAMIC VIEW OF THE MANAGEMENT OF DIVERSITY

The following explication will follow a different order than that followed for the review of conventional thinking. A more inductive order will be followed so as to provide the argument for the model that will be presented. In the building of this argument, certain other notions will be introduced that were not presented in the critique above. The reason for this is these notions were not directly salient in the previous studies of the management of diversity. Nevertheless, the purpose of this attempt is to provide another useful and hopefully valid sense from which top management can make policy prescriptions for the management of diversity.

A. Assumptions

The author has gleaned the following fundamental assumptions and components of a system from sources that provide overviews to the field of general systems theory (Bertalanffy, 1975; Forrester, 1961; Berrien, 1968; Buckley, 1967; Ackoff, 1971):

1. The properties of "real world," social systems (Battista, 1977) can be described as:

- a. Wholeness -- means that systems have properties and states that are substantively different than their component parts. "Wholeness thus reveals that inherent organization of systems and leads us to recognize that the properties of a system are as much a function of the way in which a system's parts are related to one another as they are a function of the actual properties of the parts" (Battista, 1977:67).
- b. Hierarchical Organization -- "The hierarchical organization of systems means that any system is a part of a more encompassing system and is a synthesis of the set of component subsystems which constitute its parts. Hierarchical organization thus implies that systems should be understood as systems within systems, etc., and that it is therefore legitimate to identify any particular system in terms of its level of complexity (Battista, 1977:67).
- c. Structural Analysis -- "The hierarchical organization of systems in combination with the principle of wholeness explains the structural mode of analysis used in system's theory. The principle of wholeness tells us that systems exist in their own right as the synthesis of their parts. Thus a given system can be understood in terms of the way its parts are coordinated, i.e., structurally" (1977:67).
- d. Interdependence -- "The particular relationship among the elements of a system reveals the wholeness of systems and implies that all systems are organized. However, not all organizations are systems. Interdependence means that systems are organized in such a way that altering the state of one of its variables will result in altering the state of all of its variables at a given hierarchical level...This characteristic of systems implies that the state of each variable partially determines the state of every variable at a given hierarchical level within the system. Interdependence thus tells us one of the unique ways in which systems are organized, i.e., through feedback loops (1977:68).
- e. Activity -- "The interdependence of the variables within a system implies that systems are active rather than static or reactive. Since each variable will alter the state of every other variable, a never ending loop is set up and the system will always be in the process of transformation...The activity of systems reemphasizes that we should look at systems as processes of transformation rather as things or entities: (1977:68).
- f. Self-Maintenance -- "Self-maintenance refers to the ability of systems to maintain their form and properties over prolonged periods of time and through a number of

environmental circumstances...the ability of the system to maintain its form and properties does not so much depend on the fact that each element is replaced by one similar to it as by the ability of the structure of the system to determine the way in which the particular element will function: (1977:68).

- g. Self-transformation -- "Self-transformation, ..., refers to the ability of systems to transform their form and properties over time. Self-transformations imply changes not only in the properties and forms of systems but also in their structures. The changes in their structures can be at the same hierarchical level or to a higher or lower level. Learning or adaptation is the paradigmatic case of a self-transformation at a given level, while development or ontogenesis is the paradigmatic case of a self transformation leading to a hierarchical reordering. Hierarchical reordering is the more complex of the two kinds of transformations and "...involves the differentiation of previously identical elements into distinct entities and process... and their reintegration at a higher level." Also, ..."hierarchical transformation is a discreet rather than gradual process" (1977:68).

2. If these properties adequately describe the nature of a system, then a fundamental assumption is that to study only the parts of a system and certainly to not include the dynamics of the system (through the study of feedback loops), is to do so at some risk. The risk is to produce at best partially valid knowledge and at worst fallacious knowledge. A question then becomes what is the appropriate methodological and conceptual apparatus that will allow us to study the whole or integrity of a real world system.
3. Whichever framework(s) and method are used to understand the integrity of a system, attention will need to be given to the feedback loops in the system. It is the feedback and its understanding that may give us the most salient knowledge of real world systems. The reason for this proposition is that feedback in a real world system gives us the information signals that provide closure in understanding that system. The writer would like to change the connotation that the term feedback implies. From cybernetics we get a notion that feedback is like an electrical signal. It is objective and not imbued with value and meaning. If we can begin to understand the notion of feedback to include concern for signals that are infused with political, social and economic value, then we can begin to understand how feedback gives us closure in understanding the system. Feedback necessarily implies longitudinal study. The implications of points 2 and 3 suggest the question of what is the appropriate conceptual and methodological apparatus that will allow us to study the integrity of a real system through time.

4. Finally, admissible knowledge can only be had by studying the appropriate system and that system's wholeness and integrity. A premise is that the system's integrity cannot be gleaned from only summing the parts.

B. The Building of a Systems Model of the Management of Diversity

Bigler (1983) has given an argument that one of the most basic and fundamental systems that is strategic in nature is that of Environment-Strategy and Performance. In that work, an attempt was made to include the basic components of a Context (Environment), Choice (Strategy), Outcome (Performance). However, these constructs were only delved into in a bivariate sense. The issues of feedback and succeeding time frames were not taken into account. We can proceed from that work (and the work of others cited above) by adding the systems notions discussed above. In general then, the components of our systems view and the hypothesized relations among them are as follows:

1. Environment is defined as that which is external to the firm and over which the firm has varying degrees of control. At an abstract level, the "contingencies" posed by the environment can be captured by operationalizing the:
 - a. Dynamism in the environment - Variability of critical environmental contingencies that leads to unpredictability of change
 - b. Diversity in the environment - The number and concentration of critical elements in the environment
 - c. Abundance in the environment - The richness and amount of critical input resources

in terms of critical input resources. Critical input resources are any of the factor inputs that the firm needs in its transformation process.

2. Strategy: Strategy can be defined in many ways but to make the definition here compatible with the level of interest (CEO or general manager) and the nature of the study (a component of the system along with the component of the environment and performance) we can define strategy as:

Business Level: The internally consistent package of the functional area policies and tactics that attempts to

align with the contingencies posed by the environment. If this is developed in enclaves where the competition is not, then the probability of developing comparative advantage and distinctive image can be increased.

Corporate Level: The collection/divestiture of appropriate businesses so as to manage risk and to give the corporate organization appropriate interorganization network power and control.

For the purpose of this argument, we can abstractly operationalize this package in terms of its strategic diversity (or lack thereof). (See Bigler, 1982 and Donaldson and Lorsch, 1983 for discussion of a diversity index to measure strategic diversity.)

3. Structure: This component of the model is broken into two constructs:
 - a. Quasi-structure -- Following Bower (1970), this is the part of structure of an organization that is the rather fluid manifestation of a Top Management Team trying to cope with a complex and turbulent environment. Here, for example, a TMT can attempt to "structure" the use of:
 - Committees
 - Task Forces
 - Joint Ventures
 - Interlocking Directorates
 - The symbolism attached to top management meetings and retreats
 - The actuality and symbolism of the goal setting process
 - The actuality and symbolism of the resource allocation process
 - "Venturing" capability
 - Lobbying activity

The notion here is that the composite "structure" (actual or implied) from these fluid processes is the consequence of the TMT trying to cope with problematic environments. This fluid structure will either slough off out of the system after its usefulness is gone, or become bureaucratically fossilized in the formal structure.
 - b. Formal Structure -- This part of the overall structure is the number, diversity and configuration of the major building blocks of the organization. Depending on the organization, these blocks can be sectors, groups, divisions and/or SBUs. The formal structure as defined here is that view of structure that is held by the literature to most directly link with the strategy of the firm (Chandler, 1962; Galbraith and Nathanson 1978).

4. Performance: For this system, performance is the sought after goal, at least for the first cycle of the system. Various measures of performance, such as return on assets, sales growth or market share, have obscured somewhat what the range of theories of performance could be. If we adopt this critical resource oriented, systems view, then performance can be thought of as the firm's level of command of critical input resources and the rate of change of the command of those resources. This definition will help us to view how an individual firm performs in a given period, but it will also be the basis for understanding the initial key feedback to the rest of the system. A given firm's level of command of critical input resources and its rate of change from previous time periods will certainly have implications for the nature of the environment and for the strategy of the firm in successive time periods.

Given these arguments and conjectures, Figure 1 shows, at an aggregated level, what a dynamic, systems view of Environment -- Strategic and Structural Diversity -- Performance could look like. To reiterate, the essential features of a more systems view to the management of diversity is the introduction of the environment via a critical resource perspective and the existence of feedback, more generally construed. At this stage, we can begin to enumerate some of the key dynamics of this systems view. In so doing, the differences (and complementarities) of this view with conventional thinking should become apparent.

The various loops that feed-forward in the system are for the most part commonly held, with respect to our understanding of the causality implied. That is, it is commonly held that Environment partially determines Strategy and that some combination of Environment and Strategy (or perhaps each construct alone) partially determine performance. This could be thought of as one iteration or "cycle" of the model. But if we construe both Environment and Performance in resource dependence terms, then we can begin to see what the effects of this first cycle may have on each of the constructs in succeeding time periods. Let us build an example of a hypothetical medium size firm that has successfully traversed a given cycle through the system. It has

attained a certain level of command of critical resource inputs and has confirmed a previous trend in the rate of change of command of critical input resources; that is we have a growing firm. This level and rate of performance in the now current time period can have at least two feedback patterns. First, this level and rate of performance can change the amount of Abundance, Diversity and Dynamism in the task environment. The firm can, through outright concentration of the industry (by gaining market share), move to "concentrate" away certain of the problematic features in the environment. (See Aldrich, 1978 and Pfeffer and Salanick, 1979 for full development of dealing with inhospitable environments.) It may dampen environmental diversity, while at the same time it may move to cut off entry. If abundance in the environment stays relatively constant, then the firm has helped to produce a situation where it and the other current players can enjoy the luxuries of plenty with little rivalry. This scenario might suggest then that the firm may stay constant in terms of its degree of Strategy content diversity and structural diversity. This position is drawn from the cybernetics literature (Ashby, 1963) and is an extension of the law of requisite variety. Here, the prescription is that internal strategic diversity should match environmental diversity (up to a point) for high performance. If there is little increase in the overall complexity of the environment, then by our hypothesis from cybernetics, there would be little pressure to change the balance of internal strategy content and structural diversity. However, the other feedback pattern from performance in the now current time period may produce the opposite pressure. The feedback loop from performance to strategy says simply that as performance (as defined here) increases (its level and rate of change) the firm by building slack resources is perhaps gaining learning and confidence in making strategic moves and that this pressure may lead to increasing the

strategy content and structural diversity. The firm may have idle cash to invest, may have managers who could be used in new ways, etc. and this may put pressure on increasing the internal diversity make up. Which of the hypothetical conflicting pressures will have the most influence will depend on many factors: the nature and life cycle stage of the industry, the amount of vigilance and sensitivity the top management team has with respect to these pressures and its own value preferences with respect to goals and objectives.

There is also a feedback sub-system that works within each of the major constructs in the model. That is, we see reciprocal causation between Abundance, Dynamism and Diversity in the Environment. Previous studies that have empirically derived these environmental indices through factor analysis (Dess, 1980 and Bigler, 1982), have imposed orthogonality on them and thus have assumed away any interaction. However, Bigler (1982), found that environmental abundance and diversity were co-linear. This would suggest then that we should study possible interactions among these indices of environmental contingency. We also see mutual causation between Content and Structural strategic diversity. Traditionally we have thought that internal structure follows strategy (Chandler, 1962). However, we have seen recently (Quinn, 1980; Hammermesh, 1983; Waterman, Peters and Phillips, 1980; to name a few) that structure thought of as both normal macro-structure and quasi-structure can actually constrain further strategy content decisions. So, strategy could follow structure in later time periods and we can posit that an interaction (or mutual causality) exists between internal strategy and structural diversity. Finally, we see a mutual relationship posited between the level of and the rate of change in the command of critical input resources. We have some knowledge about the dynamics of these interactions (between growth and size)

but not much work has been done that delves into these interactions in the context of this entire strategic system.

Following Sahal (1980), we can posit the occurrence of a "feedwithin" loop. This could emanate from either the quasistructure locus or the actual strategic diversity locus and flow to performance. The notion here is that the firm may want to "signal" future performance in a manner that will optimize (or satisfice) the entire system over a given number of time periods. For example, the firm may know from past iterations that a concentration form of high performance may incite retaliation on the part of certain competitors or raise the ire of the Justice Department. We would then want to lessen a "concentration" form of performance and opt to increase a more interdependence form of performance. Notice that by our definition of performance, both modes can lead to increasing command of critical input resources. Notice also that this construal of performance is more dynamic than conventional thinking. By positing that two forms of commanding critical input resources exist 1) a "concentration" form and 2) an "interdependence" form, we are at once combining the outcome (a certain actual level of command of critical input resources in the current time period) with the means used to get there. "Concentration" oriented performance is arrived at by increasing marketshare and "interdependence" oriented performance is gained by developing external coalition power. This kind of high performance will never increase the size of the firm as measured by the balance sheet. Joint ventures, licensing, trade association activity are the means for gaining interdependence performance and perhaps the measure of it.

DISCUSSION

Certain of the views expressed above are fairly common in the systems literature. What the writer would like to suggest is that the management of diversity should be performed from the perspective of the entire system through time. If we can gain an understanding and a sensitivity of the entire system, then perhaps the integrity of the system can become manifest. Integrity means its wholeness and workings of the parts in terms of their sensitivity to changes anywhere in the system. If this view is valid, the writer is charging top management with the responsibility of gaining knowledge of this integrity (see Kilmann, 1984, for a similar view). Exactly and practically how this can be done is for further research. But in an abstract sense, systems theory posits that to understand a given focal system, one needs to view it from that focal system's next higher order system or supersystem (Miller, 1978). An interesting question would be, if this assertion is valid, what is the next higher order system for this focal system of Environment -- Strategic Diversity and Performance? Probably, this next higher order system would be some confluence of the larger economic, political and cultural systems, both domestic and international (Scott, 1982) Much more conceptual and empirical work could be done in this vain.

What we can say though at the present time is that the system's model presented here could be the shell within which we can subsume many of the areas of responsibility normally ascribed to top management. Specifically, we may be able to subsume the following. These parts also represent challenges for future research:

1. This dynamic model could suggest useful (not optimal) degrees of diversity. This diversity can take the usual forms (related or unrelated portfolios) of diversity or branch out to newer concerns for "autonomous" behavior for corporate venturing

(Burgelman, 1983) and other diversity for managing external stakeholders (Freeman, 1984).

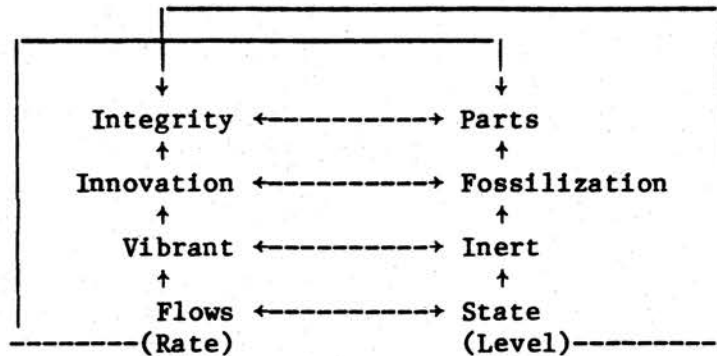
2. The model can help us understand the role of environmental perception and gestalt making in the context of the whole system. The model suggests that we can understand the effects of environmental gestalt making by tracking the degree and diversity of the use of the components in the quasistructure. These components of the quasi-structure arise in part because of management's attempts to make meaning out of problematic environments. But they will eventually slough off out of the system or become fossilized in the formal structure. The very process of trying to come to terms with problematic environments and the dynamic flow of the quasi-structure in and out of the system could be one of the forces that leads to a dominant culture and power coalition among top management teams (Gordon, 1984). This dominant culture and coalition can be either a hindrance or a springboard for attempts to manage diversity in later time periods.
3. The dynamic model can help us discern whether this resource oriented view of performance is useful. Some questions would be how does this notion of the construct of performance relate to conventional measures of performance (ROA, ROE, Market Share, Value Maximization, etc.).
4. Further refinement of the model and its testing can help us determine how this abstract analysis can be made more concrete. Questions could be, does a complex environment (one that has high levels of abundance, diversity, and dynamism), necessarily mean that particular pockets of opportunity will exist. In other words, are complex environments favourable environments to compete in? Conventional wisdom would probably say yes due to the fact that cleavages or enclaves would emerge from this complexity. However, more concrete operationalizations will have to be made to confirm or refute this assertion.
5. If the firm is increasing its performance as defined here (level and rate of change of critical input resources) does this necessarily mean that the firm is engaging its pockets of opportunity well? This notion of performance presented in this paper can certainly get at sheer power considerations, but can it account for qualitative aspects of doing the right thing well? This awaits further research.
6. Finally, can we begin to understand the dynamics of the model to suggest when innovation (the bringing forth of new diversity) or fossilization (the dampening of diversity) will likely occur? We may begin to understand in an abstract sense at what time in the dynamics of the model each of these processes is likely to occur. Hopefully, we could infer the conditions for and the attributes of these innovation or fossilization

processes. An interesting question would be which process -- innovation or fossilization -- leads to self-simplification in the system. Forrester (1968) has suggested that there is only so much diversity a given system can take before self-simplification takes hold. Operationalizing this process could give top management some useful knowledge for managing diversity. Also, we can delve into the dynamics of when which process, innovation or fossilization, leads to high performance.

7. The notions suggested in #6 above pre-figure a larger concern for timing of moves. Because most strategy research is cross-sectional, the concern for timing has rarely been a direct academic issue. The reality of the timing of moves suggests many interesting possibilities that await further research. For example, but certainly not exhaustive, the following areas of concern may be enhanced by understanding timing:
 - a. R & D Expenditure
 - b. Product/Technology Diffusion Tendencies
 - c. Timing of Information Releases
 - d. Acquisition/Divestiture as it Affects the Dynamics of the System of Environment-Strategy-Performance.

The writer hopes that the arguments given here have at least piqued interest in an alternative but complimentary view of the management of diversity. This model and the hypotheses that are implicit with it need much further research. Perhaps simulation of this system would be useful first step in gaining some rudimentary knowledge of the model. Field research could then be advanced from these beginnings. Only then can we confirm or refute the model presented here.

But perhaps more interesting than the confirmation or refutation of model would be the development of a distinct top management philosophy or world view that is consistent with the tone and thrust of this paper. This world view could be captured somewhat by the juxtaposition of these points on a continuum:



What this set of descriptors is to convey is the view that each does form the ends of a continuum and as such suggests that each is a polar opposite of the other. But because there is a conceptual relation between Flows and Parts and State and Integrity, we see that there is unity in seeming opposites. This little exercise in conceptualization shows that this top management world view has to encompass the parts, their whole and the dynamics through time among the parts and the whole. While we may have trouble conceptualizing what this world view would entail precisely, we can more easily say what it would not include. Gone would be the days of linear, cross-sectional and static thinking. Top management thinking needs to be much more fluid, synoptic and humble. Hopefully, this paper has made a call for such thinking and described how the field can begin to forge research agendas that can describe it.

Notes

¹The author intends the phrase "correlational conceptual ground" to mean a conceptual underpinning that describes or reflects observed regularities in the way two constructs (or their operationalization variables) are related. This kind of conceptual ground operates at the level of the observed phenomena. While this mode of "grounding" is certainly in the spirit of normal science and orthodox philosophy of science, what is missing is a more persuasive appeal at the underlying construct level. Conceptual grounding in a more persuasive mode usually calls for a more systemic, fluid and dynamic appeal.

²Good research design is supposed to "hold constant" other parts of a system. In strategy research, the conditions for ceteris paribus to hold are rarely accommodated.

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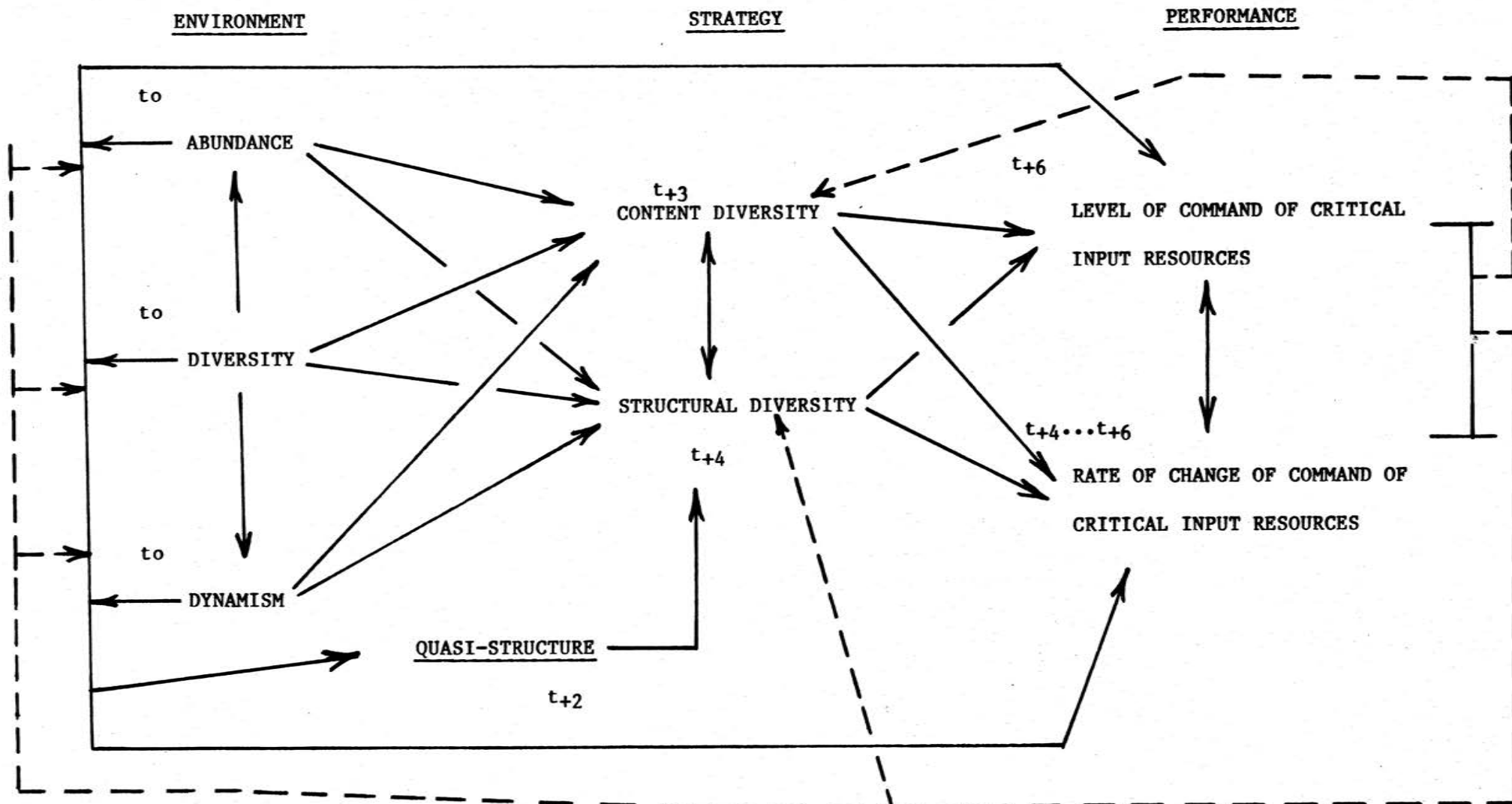
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FIGURE 1

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