The "death valley" of change

P. David Elrod II
*Sverdrup Technology Inc., Arnold Air Force Base,
Tennessee, USA, and*

Donald D. Tippett
*The University of Alabama in Huntsville, Huntsville,
Alabama, USA*

Abstract *This paper provides an overview of the current body of knowledge surrounding the human response to change and transition. Models of the change process, as perceived by diverse and seemingly unrelated disciplines, are identified, compared, and contrasted by tracing the evolution of these models from seminal works through contemporary research. Surprisingly, a majority of the models studied were found to share two important characteristics: they follow Lewin's 1952 three-phase model of change; and they describe a degradation of capabilities in the intermediate stages of the change process. In a practical example, the authors explain their experimental verification of the change models' applicability to an organizational change involving the introduction of teams. The interrelationship of developmental and change models is discussed. Finally, the importance to leaders and managers of developing an understanding of the current state-of-the-art in human response to change and transition is discussed.*

Introduction
In today's work environment there are not many fundamental tenets that are both broadly accepted and impervious to the test of time. However, one such tenet is that change is pervasive – it is a constant and common element that impacts humankind individually and organizationally, day in and day out. This paper profiles the current body of knowledge surrounding the human response to change and transition. The diverse fields researched include organizational change, bereavement theory, and stress management, along with some relevant recent research conducted by the authors in the field of team building. The various change models that have evolved within these fields will be examined for common elements that, taken together, shed greater light on the process of managing change, and increase leaders' and managers' ability to cope with their constantly changing environment.

The impact of change on individuals – pioneering efforts and contemporary research
During the Second World War, leaders at many levels of society confronted a need to change American behavior. This was found to be a complex and little understood undertaking. Traditional patterns of thought and behavior, such as the role of women in the workplace, the consumption of red meat and sugar, and the rationing of gasoline, were challenged and modified. Observations noted during this period led to a great deal of post-war interest in change research.

From the end of the Second World War until his death in 1947, Kurt Lewin served as director of the Group Dynamics Research Center at MIT (Merrian-Webster, 1988). During this time, he completed his seminal work, "Group decision and social change", which was published posthumously in 1952. Here Lewin presented two key concepts regarding change and transition. The first of these concepts was his theory of quasi-stationary social equilibria. This theory describes how balanced or imbalanced "force fields" determine whether social systems maintain equilibrium or change to new states.

Lewin's second key concept was his decomposition of change into a simplistic three-step process:

(1) unfreezing;

(2) moving; and

(3) freezing

These steps represent one of the earliest known models of the change process. Lewin pointed out that each of these three phases of change is subject to its own issues and problems. Lewin's initial characterization of the change process has been reformulated and recast in many forms (McWhinney, 1992).

Soon after Lewin's death, Coch and French (1948) published their pioneering work entitled "Overcoming resistance to change." In this work, they identified many ways in which resistance to change is manifest in the workplace: grievances, high turnover rates, low efficiency levels, and restriction of output. Their work was the first to address the role of participatory management in reducing the resistance to change.

In the fall of 1965, four students at the Chicago Theological Seminary approached Dr Elisabeth Kubler-Ross (1969) for assistance in a research project. Their task was to write a paper on "crisis in human life." They had decided that death was the greatest crisis faced by humans. So began the seminal research done by this group on the transition process associated with death. In her landmark book, *On Death and Dying* (1969), Kubler-Ross built on this work by documenting the phases through which individuals pass when coping with trauma or serious illness. She identified these five phases as:

(1) denial;

(2) anger;

(3) bargaining;

(4) depression; and

(5) acceptance.

Kubler-Ross's work laid the foundation for bereavement theory and the study of "griefwork."

Fink (1967) developed a similar, but less well-known, model of how people react to crisis situations. He identified four phases describing how individuals

react and recover from the loss of a loved one, a limb, or something else very important. He identified these four phases as:

(1) shock;

(2) defensive retreat;

(3) acknowledgement; and

(4) adaptation and change.

It should be noted that, although Kubler-Ross was one of the first writers to specify succinctly the steps in the change process, she was by no means the first to document it. One of Kubler-Ross's co-workers, Imara (1975), recognized the change process in writings from 700 BC – approximately 2,700 years before Kubler-Ross's research. Imara states that the sixth chapter of the Old Testament book Isaiah reports on the prophet's experiencing of Kubler-Ross's five steps. The chapter begins by recording the prophet's sense of shock and denial, then his moving through the emotions of awe and guilt, followed by redemptive bargaining, and the working depression as he faces the reality of the true cost of his commitment, to the final acceptance of his prophetic task (Imara, 1975). Other Biblical accounts, such as the aftermath of David's encounter with Bathsheba (II Samuel 11-12), and Jonah's rejection of God's will (Jonah 1-4) also clearly document each of Kubler-Ross's five steps. These are arguably among the earliest records of the change process.

Imara's (1975) article, "Dying as the last stage of growth," described the process by which individuals grow in their understanding of reality as the time of their own death draws near. He postulates that:

> We abhor and reject the moment when we will confront the nearness of our death. But the dying stage of our life can be experienced as the most profound growth event of our total life's experience. The shock, the pain and anxiety are great, but if we are fortunate enough to have time and experience our own process, our arrival at a plateau of creative acceptance will be worth it.

In Figure 1, Imara depicts the growth of individuals as they go through Kubler-Ross's five phases of grief. It is interesting to note that Imara portrays two periods of regression or negative growth during this process. The first is during the denial phase. The second is during the depression phase. In both of these phases, the individual is less effective than normal in dealing with life's routine challenges.

While Kubler-Ross mainly studied the change-response of individuals facing their own death, Parkes (1979) studied the change-response of those who are bereaved by the passing of a close friend or family member. The model Parkes developed involved seven distinct steps. These steps build upon the foundations of Lewin's three-step model and Kubler-Ross's five-step model. Parkes expands on these themes to address issues specific to the bereavement or griefwork process. He identifies the seven steps as:

(1) A process of realization, i.e. the way in which the bereaved person moves from denial or avoidance of recognition of the loss toward acceptance.
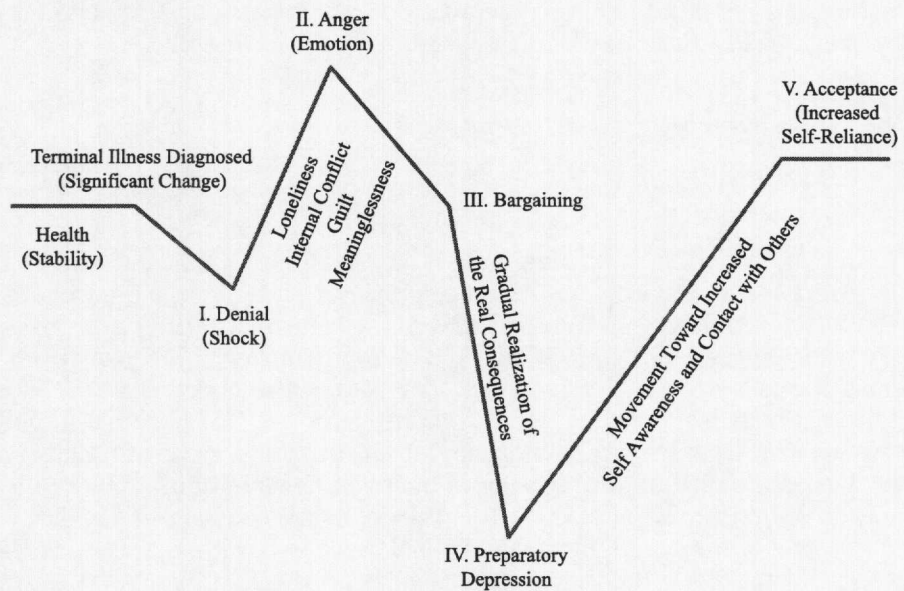
Figure 1.
Imara's stages of
personal grief

(2) An alarm reaction – anxiety, restlessness, and the psychological accompaniments of fear.

(3) An urge to search for and find the lost person in some form.

(4) Anger and guilt, including outbursts directed against those who press the bereaved person toward premature acceptance of his loss.

(5) Feelings of internal loss of self or mutilation.

(6) Identification phenomena – the adoption of traits, mannerisms, or symptoms of the lost person, with or without a sense of his presence within the self.

(7) Pathological variants of grief, i.e. the reaction may be excessive and prolonged or inhibited and inclined to emerge in distorted form.

Dr Walter Menninger was associate psychiatrist and senior psychiatric consultant for the Peace Corps from 1963 to 1971. During that period, he and a colleague were tasked with identifying the kinds of stresses that Peace Corps volunteers experienced overseas and developing ways of mitigating those stresses. The study was conducted by interviewing volunteers who resigned before their two-year tour was completed and by interviewing groups who were finishing their tours of duty. From these interviews, Menninger (1975) developed a graphical portrayal of this process as shown in Figure 2. This graph and its later variants are generally referred to as "the change curve." The vertical axis of this graph represents the morale of a typical individual volunteer. The horizontal axis represents time (measured in months) during which the individual was actively participating in the program.
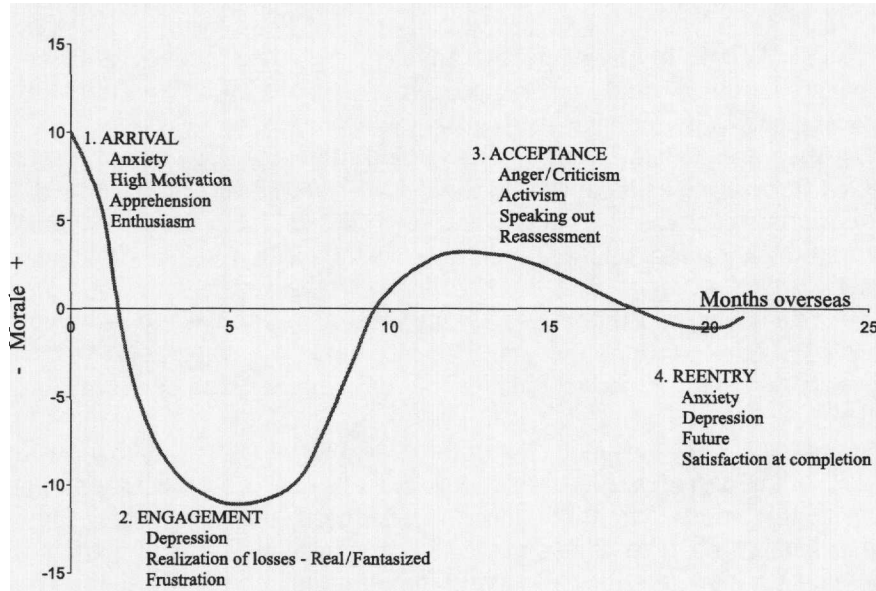
Figure 2.
Menninger's
morale curve

The first three months of a volunteer's time were spent at the Peace Corps' US training facilities. During this period, participants studied the language and culture of their assigned overseas work site – but remained within their own native culture. At the end of this period, the morale of a typical volunteer was high with great enthusiasm and some apprehension for the adventure ahead.

Once workers reached their overseas work area, they came face-to-face with the difficulties and hardships which made that site a candidate for receiving Peace Corps aid. In spite of the stateside training and preparation, the majority of volunteers experienced some degree of depression as they realized their new plight. A common hardship for many workers was the lack of food. Many of the volunteers had a sense of loss at this point over the abundance of food and blessings that they had taken for granted in the USA, but which were unavailable at any price in their new home. The little food available was frequently unfit to eat. Menninger (1975) relates the situation as follows:

> So you go down to your first meal, and it's a marvelous piece of starchy cassava over which, to make it more palatable, they pour an oily foul-smelling fish sauce that is one of the most effective weight-reducing meals I have ever tried. It's not because the calories aren't there, but because you don't eat. Or you eat just enough to keep going. As for the local atmosphere, the open sewers give it a characteristic fragrance . . . You can't drink the water out of the tap, and you must be careful about food. The Ghanaians use human feces – night soil – to fertilize their vegetables, so you can't eat salads because you can't get rid of all the cysts.

After approximately one year, the typical volunteer would reach a stage of acceptance of his or her situation. It was at this juncture that typical participants set aside worries about those things outside of their control and focussed on those matters they could influence. For the remainder of this phase, the productivity of workers was at its highest levels.

The final phase of Menninger's change curve contained many of the same responses that individuals experienced at the start of the process. The journey back to the USA might have been considered inconsequential – because it was a transition back to a known environment and culture. However, the volunteers viewed themselves as having been changed by their experience; their outlook on life and perceptions of the world had been altered. Thus, the individual who journeyed home was a different individual than the one who had left home less than two years earlier.

Menninger concluded that his findings could be applied to many other situations besides a tour of duty in the Peace Corps. He noted that, "whenever a person takes a new job or changes his life situation, his sense of himself undergoes changes," reflected by this curve.

Adams *et al.* (1976) extended the work of Menninger, Lewin, and Kubler-Ross in developing a general model of people in transition. They considered many types of transitions – from childhood to adulthood, school to work, single to married, job to job, married to divorced, geographical moves, and bereavement. These researchers describe the curve as representing a cycle of experiencing a disruption, gradually acknowledging its reality, testing oneself, understanding oneself, and incorporating changes in one's behavior. This model (Figure 3) incorporates the basic phases of Kubler-Ross's model, but differs from Imara's work in that it only has one intermediate state of lessened effectiveness.

While Parkes and Imara were addressing issues related to death and dying, other researchers were considering the more general cases of change and transition. Harvey (1990) equated all change with loss in stating:

> It is crucial to remember that for every change proposed or achieved, someone loses something.

Examples of such losses include the breaking of ties with co-workers through relocation, loss of valued expert knowledge when new technology replaces old,
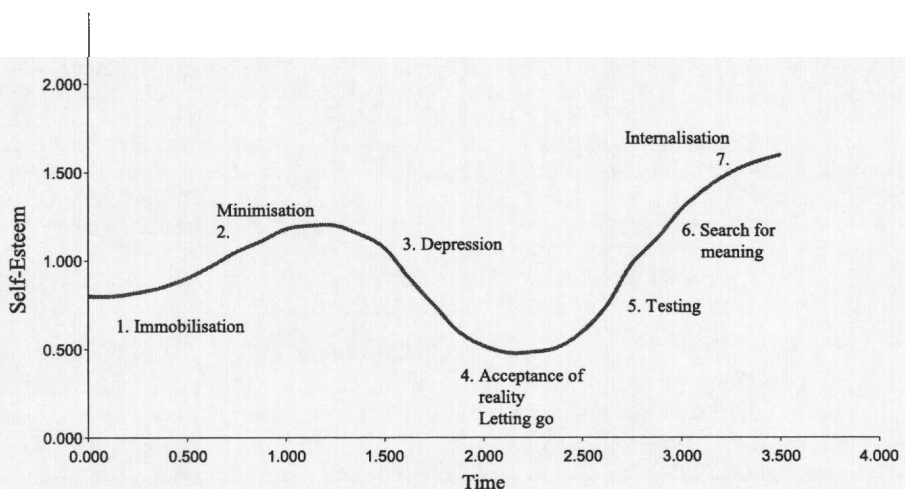

Figure 3.
Adams' self-esteem changes during transitions

or loss of power base when organizations are restructured. Deal (Deal and Kennedy, 1982) suggests that significant barriers are raised whenever change is not recognized as loss, as the death of the old. In fact he proposes literally holding a wake for the old program, project, or whatever is being changed. Those who do not recognize the loss can be doomed to remain in the "denial state" common to most models of change.

In the mid-1980s, Levy and Merry examined cross-disciplinary models of change and transformation and found that there was great similarity across many seemingly disparate fields (Levy and Merry, 1986). Their findings are summarized in Table I. The fields examined included cultural revolutions, macroeconomics, scientific revolutions, innovative processes, and biological systems. Each of these models of transformation followed Lewin's pattern of starting and ending in equilibrium states, with an interim period of transition. In three of the five models, the interim state involved some degree of chaos, crisis, or distortion.

Extending the concepts from individual to organizational impacts
In the years that followed, other authors recognized and wrote of similarities between the individual's response to traumatic change described by Kubler-Ross, and change reactions in organizations. Grensing (1991) argued for extending this theory. He stated that the five stages that Kubler-Ross identified in people dealing with death are equally applicable to people dealing with change and transition in life in general.

Perlman (Perlman and Takacs, 1990) noted that while Kubler-Ross deals with death and dying on an individual level, the stages she presents are strikingly similar to those encountered in organizational change. Henderson-Loney (1996) carried this concept further by linking Kubler-Ross's work to one of the team development models presented earlier. She noted:

Cultural revolutions (Wallace, 1966)	Scientific revolutions (Kuhn, 1972)	Dissipative structures (Prigogine, 1980)	Historical determinism (Marx, 1867)	Creative process (Adams, 1984)
Steady state	Normal science	Fluctuations within defined boundaries	Steady state	Preparations
Cultural distortion	Growth of anomalies	Fluctuations past a threshold	Growing dissatisfaction	Incubation
Revitalization			Conflicts	Illuminations
Reformulation	Crisis	Crisis	Crisis	
Transformation	Revolution	Jump to a higher new order	Revolution	
Routinization	Normal science within a new paradigm	Local equilibrium	New order	Verification

Table I.
Levy and Merry's transformation in various contexts

The parallelism in Tuckman's team growth model and Kubler-Ross's griefwork model provides a guide for supervisors to manage the emotional response of their team members to organizational change. The Tuckman model comprises four phases, namely, forming, storming, norming and performing. Likewise, the Kubler-Ross model consists of four stages, namely, denial, resistance, exploration and commitment.

Henderson-Loney (1996) goes on to state that:

> Both planned and unplanned change in organizations have an element of loss inherent in the process which is felt, but often is not acknowledged by either employees or their managers. Left unaddressed, the emotions experienced throughout the stages of change, like those accompanying the stages of grief, may be expressed by employees in behaviors which are obstructionistic, even destructive, to the goals of the change. Newly formed teams will confront the challenges of moving through these stages as a natural process and in a more or less orderly way, determined by the level of awareness of group members and the facilitator. Well-established teams who must deal with significant change, however, will also cycle through these stages and should be prepared to expect the emotional responses. Managers and supervisors who understand and can facilitate the movement through these developmental phases will be rewarded by reaching peak team performance much more quickly.

Grant (1996) continued this pattern by documenting the applicability of Adams' model to organizational change in her 1996 article, "Supporting transition: how managers can help themselves and others during times of change." She noted that research into the impact of the most traumatic personal changes, such as death and dying, has produced generalized models of transitions such as organizational change. She reinforces the concept of interim regression of self-esteem and performance by stating that:

> Things often look worse before they get better. A garden in need of attention looks worse after pruning, and before the benefits are seen (Grant, 1996).

While many of the works highlighted thus far address the entire change process, Maurer (1996) focussed on the intermediate portion of the transition. In his book *Beyond the Wall of Resistance*, he identifies eight distinct ways in which individuals, knowingly or unknowingly, resist moving from their initial state. Mariotti (1996) summarizes these responses as follows:

(1) Confusion – difficulty in realizing that change is going to happen.

(2) Immediate criticism – rejecting change before hearing the details.

(3) Denial – refusing to accept that things have changed.

(4) Malicious compliance – smiling and seeming to go along, only to demonstrate a lack of compliance later on.

(5) Sabotage – taking actions to inhibit or kill the change.

(6) Easy agreement – agreeing with little resistance, without realizing what is being agreed to.

(7) Deflection – changing the subject and hoping that it will go away.

(8) Silence – complete absence of input, which may be the most difficult resistance to deal with.

Maurer's first and last responses are passive; however, several of the remaining responses imply active resistance. The task of a change agent is to understand and mitigate both the passive and active forms of resistance.

Perlman and Takacs (1990) provided one of the most extensive models of change. They postulated that the emotional voyage of the change process involves ten phases:

(1) equilibrium;

(2) denial;

(3) anger;

(4) bargaining;

(5) chaos;

(6) depression;

(7) resignation;

(8) openness;

(9) readiness; and

(10) re-emergence.

Bupp (1996) developed a graphical portrayal (Figure 4) of a similar model for use in the International Association of Machinists and Aerospace Workers' (IAMAW) training curriculum. The IAMAW model graphically portrays the decrease in performance or morale associated with the interim stages of the change process.
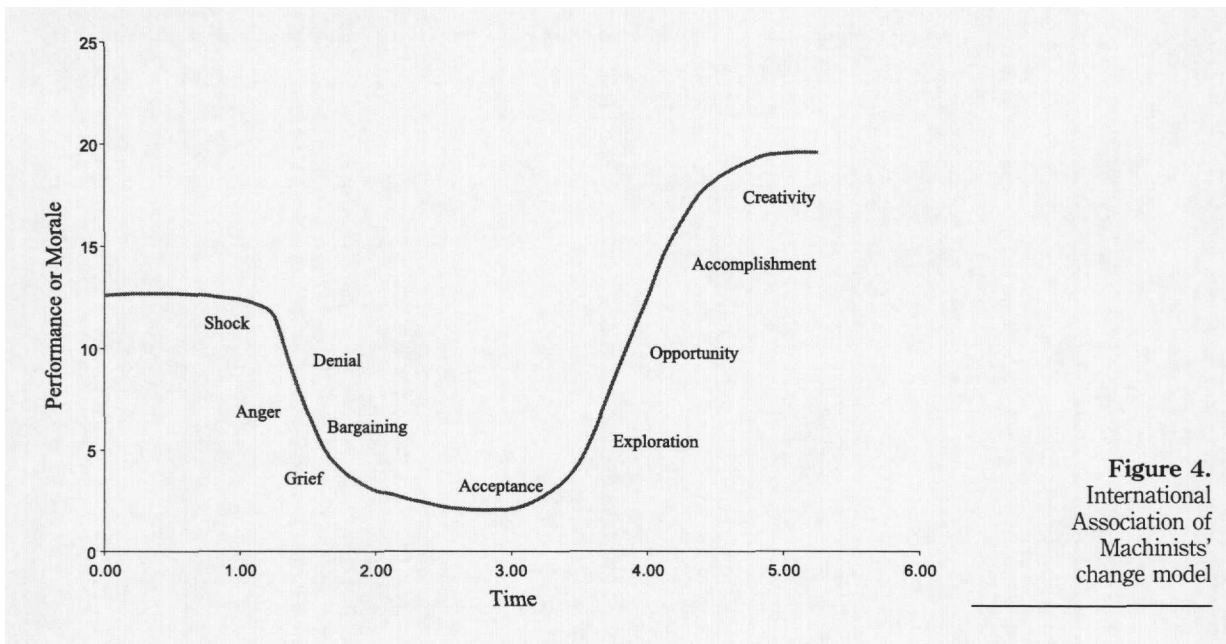

Figure 4.
International
Association of
Machinists'
change model

Schneider and Goldwasser (1998) documented management's role in understanding the change process and in leading organizations through change effectively. They used a variation of Menninger's model to portray the impact of change on organizational performance (Figure 5). Once again, a loss of performance is depicted in the intermediate stages of the process.

An experimental verification of the pattern

In their classic work, *The Wisdom of Teams*, Katzenbach and Smith (1993) deal with a specific and widespread organizational change – the team implementation process. Their team performance curve (Figure 6) traces the
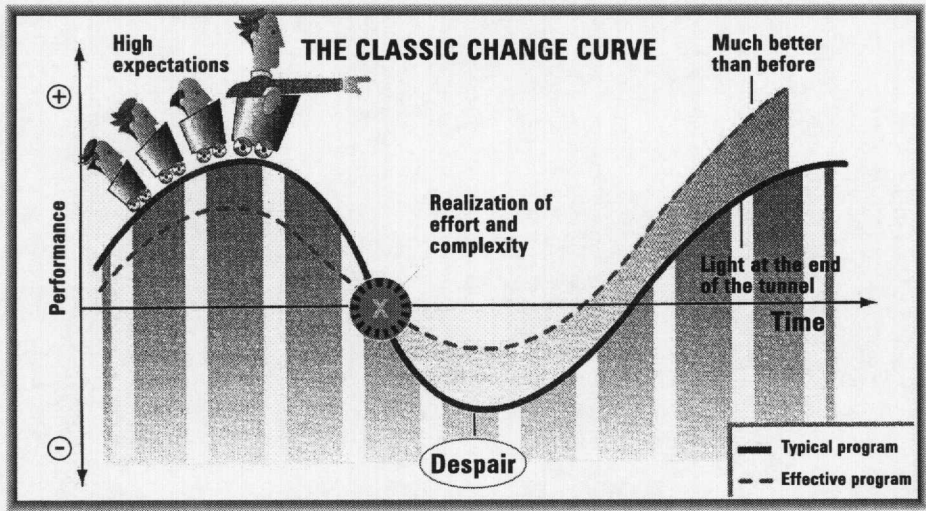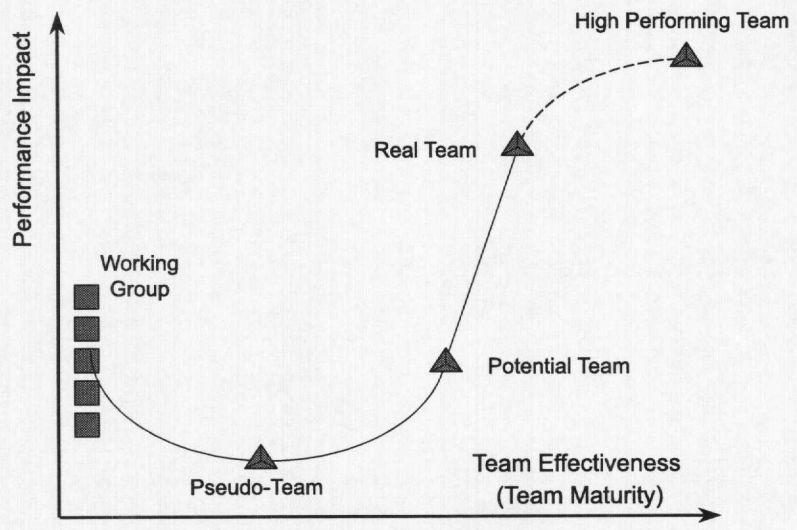

Figure 5.
Schneider's classic
change curve

Figure 6.
Katzenbach and Smith's
team performance curve

performance of a team from its initial state (working group) to its final state (high performing team). The performance decline that appears early in Katzenbach and Smith's model serves as an organizational parallel to the impacts of individual change discussed earlier.

Research performed by Elrod and Tippett (1998, 1999) demonstrated that the performance decrease associated with the implementation of organizational change is real and that it can be experimentally measured. Their study focussed on the effect of a significant organizational change in an aerospace firm. This organization was in the process of transitioning from a traditional command and control structure to a participative, self-directed work-team based organization. Approximately 1,500 employees representing over 100 teams participated in the study. These teams were diverse in their composition (craftsmen, clerical workers, engineers, and scientists) and in their functions (research, business management, maintenance, and operations).

Three hypotheses were developed to investigate the change process. The first hypothesis tested for a decline in team performance during the initial stage of the transition to teams, as Katzenbach and Smith's curve postulates. The second hypothesis assessed whether team performance after the implementation of teams was measurably higher relative to its performance prior to commencing the change process. Thus, the initial dip and the higher ultimate ending point forecasted by Katzenbach and Smith's curve were tested. The third hypothesis evaluated whether or not the shape of Katzenbach and Smith's team performance curve could be empirically verified.

Two survey instruments were used to gather the data necessary to test the above hypotheses. Team performance was measured using a self-directed team performance survey (Elrod and Tippett, 1998). This survey was designed specifically to assess the performance of diverse multi-disciplinary teams. A second survey instrument, developed by Peters (1997), was used to assess a team's current position on the continuum between a working group on the left and a high performance team on the right. Thus, a snapshot was taken of the organization's teams to ascertain whether there was a relationship between a team's performance and it's current progress in changing from a working group to a high performance team, as defined by Katzenbach and Smith. The resulting empirical data revealed a statistically significant initial performance decline, and an ultimate performance improvement as predicted by Katzenbach and Smith.

As to the shape of the curve, Katzenbach and Smith did not provide numerical scales for either axis of the team performance curve. Therefore, the first step in setting up the third test was to quantify the values shown graphically in their diagram. Peters' survey associated the five phases of the team development process with the ordinal numbers one through five. These values were used to quantify the x-axis of Katzenbach and Smith's curve. This research is predicated on the assumption that Katzenbach and Smith's team maturity categories are equal distance apart on the x-axis.

MINITAB was used to fit a cubic equation to these five data points. The coefficient of determination, R^2, was 0.997, indicative of a very good fit. This equation was then used to generate expected values that could be compared against the measured values from the survey. The survey data were normalized to the same scale used for the expected values. Figure 7 graphically portrays the distribution of the measured data along with the values predicted by Katzenbach and Smith's team performance curve. The correlation coefficient (r_{xy}) of the measured values to the predicted values was calculated to be 0.556.

The R^2 inferred by the null hypothesis is zero. The sample size for this data set is 1,241. Therefore the standard error SE_r was calculated to be 0.0284.

For $r_{xy} = 0.556$ and the indicated SE, the test statistic z was determined to be 19.57. The critical value of the test statistic $z_{0.025}$ is 1.96. The decision rule is to reject the null hypothesis when the test statistic exceeds the critical value. Therefore the data indicates that there is a positive correlation between the measured values and the values predicted by Katzenbach and Smith's team performance curve, thus suggesting the shape of their curve is appropriate.

Thus, the study verified the initial performance decline, the ultimate performance improvement, and validated the shape of Katzenbach and Smith's team maturation model. Figure 7 thus represents the performance impacts of
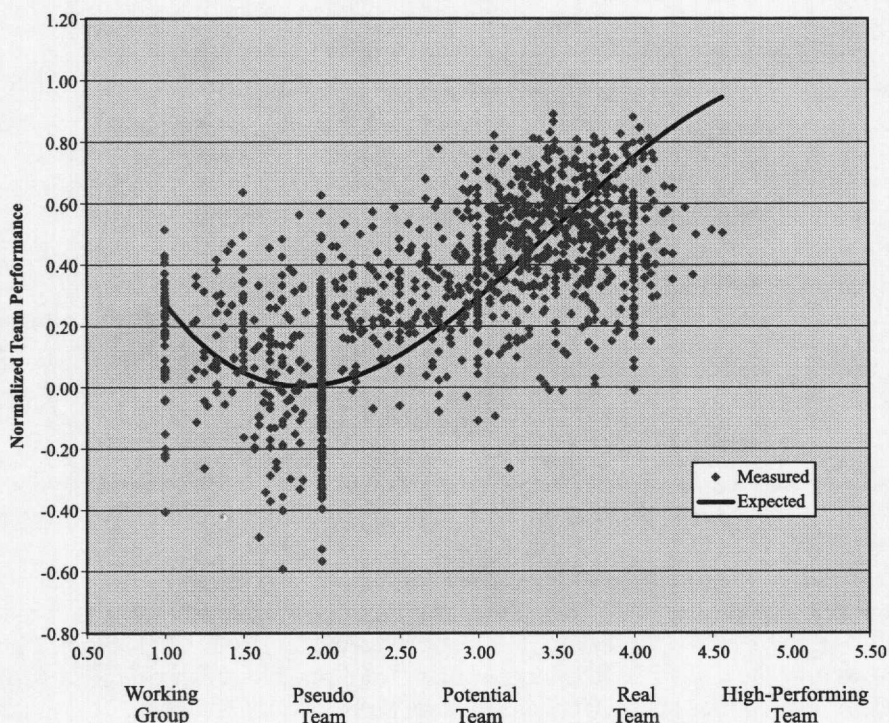

Figure 7.
Measured data versus predicted values

implementing change. In effect, this plot could be viewed as not only as a validation of Katzenbach and Smith's work, but also as an experimental verification of the generalized change process.

A recent conflicting view

As has been documented above, the vast majority of the cited works indicate that people generally do not anticipate change and thus tend to resist it when it comes. This leads ultimately to the dip in the change curve. However, it should be recognized that a fairly recent school of developmental theory has an opposing viewpoint. Kegan (1994), a proponent of this school, in his book, *In Over Our Heads*, treats life as a whole, as an on-going process of transformation beginning with adolescence, and moving through parenting and partnering, and public life at work. As people mature, they develop a more global viewpoint, which increasingly understands that change is a natural progression. They begin to accommodate change, if not actually welcome it. Thus Lewin's unfreezing, moving, and refreezing scenario becomes one of progressive unfreezing, as a person matures and becomes more expectant of change and thus more accommodating of it. However, this model does not seem to clearly explain the well-known dip in performance that has been so widely observed during the implementation of significant change.

Consensus of the change models

Table II summarizes 15 models of change. Representatives of these models were highlighted and discussed in the previous sections. The majority (13 out of 15) of these "change models" transition from normality through some form of disruption and then to a re-defined normality. This appears to be the crux of the human change process. In the initial state of normality, a reasonable level of performance can be maintained. However as an individual, or an organization passes through the region of disruption, performance can be expected to be diminished. In the final state, a re-defined normality, the understandings and expectations of the changed entity (individual or organization) are more closely aligned with reality and performance increases.

The relationship of change and development models

While this research has focused on models of change, there is a huge body of developmental theory that treats life as a whole in a broader set of constructs. These constructs are often referred to as developmental models and document successive levels of growth and maturation. Kegan (1994) describes developmentalism as:

> The idea that people or organic systems evolve through qualitatively different eras of increasing complexity according to regular principles of stability and change.

Wilber's (2000) *Integral Psychology* documents and contrasts over 100 models of cognitive, moral, spiritual and sociocultural development. These models

Date	Source	Initial equilibrium	Transition	Final equilibrium
1952	Lewin	Unfreezing	Moving	Refreezing
1961	Harvey *et al.*	Unilateral dependence	Negative independence	Conditional dependence, positive interdependence
1967	Fink	Shock	Defensive retreat	Acknowledgement, adaptation, change
1969	Kubler-Ross	Denial	Anger, bargaining, depression	Acceptance
1969	Adams	Dependence	Reaction or rebellion	Coordination and integration
1977	Elgin	Decline	Crisis, muddling through and procrastination, chaos	Back to basics, transformation and revitalization
1982	Lippitt	Shock	Defensive retreat	Acknowledgement, adaptation, change
1989	Rashford and Coghlan	Denying	Dodging	Doing, sustaining
1990	Perlman and Takacs	Equilibrium, denial	Anger, bargaining, chaos, depression, resignation	Openness, readiness, re-emergence
1994	Reynolds	Denial	Resistance	Exploration, commitment
1996	Bupp	Shock, denial	Anger, bargaining, grief	Acceptance, exploration, opportunity, accomplishment, creativity
1996	Grant	Shock/immobilisation, denial/minimisation	Depression/incompetence	Acceptance/letting go, testing, search for meaning, integration
1996	Mariotti		(1) Confusion (2) Immediate criticism (3) Denial (4) Malicious compliance (5) Sabotage (6) Easy agreement (7) Deflection (8) Silence	
1993	Katzenbach and Smith	Working group	Pseudo-team	Potential team; real team; high-performing team
1994	Kegan	Unfreezing	Double-loop unfreezing	Triple-loop unfreezing, and so on

Table II.
Summary of change models

range in complexity from three to 108 levels of being and knowing. However, these individual development constructs are not isolated organizational issues. From 1987 to 1992, Torbert and Fisher (1992) investigated the relationships

between managerial and organizational development. Rooke and Torbert (1998, 1999) extended that work in an extensive study correlating individual development (in this case, that of CEOs) to organizational development showing that the CEO's level of individual development directly influences an organization's ability to transform and develop.

The change models discussed in this paper relate to developmental models in the following manner:

- The development models documented in literature are almost universally monotonic in nature, while the models of change encompass both monotonic and non-monotonic constructs.

- Developmental models tend to span a lifetime, change models tend to cover a finite period.

- Change models can be used to describe the transition between stages or levels in a developmental model. They co-exist in a symbiotic manner. Development theory describes the journey, while change models describe the path between waypoints. Lichtenstein (1997) notes that: "the theory is useful up to a certain point, then the planned approach reaches a kind of threshold. At that point something unique happens – grace, magic, or a miracle – that seems to signal the actual transformation."

- The concept of multi-loop learning associated with moving from one level to the next in some developmental models (see Fisher *et al.*, 2001) to some extent represents the reconciliation and restructuring process that occurs in the "death valley of change."

- Progress or regression within any developmental model is dependent in part on successful execution of the change process linking one level to the next.

- Development models describe the process of transformation in a positive context that welcomes and encourages change. While change models follow Lewin's unfreezing, transition, refreezing pattern, developmental models contain a pattern of progressive unfreezing, from single-loop unfreezing, to double-loop unfreezing, to triple-loop unfreezing.

Successful development therefore involves both the proper selection of waypoints for the journey and effective navigation of the sometimes stormy waters between ports.

Significance to leaders
In simple terms, the art of leadership is the art of guiding others through change. A fundamental tenet of leadership is that there is an ongoing need to transition people, either individually or as a group, from one state of being to another. These transitions can take on many forms and vary in scope,

intensity, and duration. They range from physical relocations, to making or breaking emotional ties, to changing the processes by which we perform work. A leader serves as a pathfinder and scout while demonstrating that the change is possible, and as a servant and a guide while facilitating the progress of others through the transition. The fact that change is ever present, and the fact that the human response to change has been demonstrated to follow a common pattern combine to make an understanding of this topic essential to leaders.

Specific actions can be taken by leaders to minimize the disruptions brought on by change. First, the leader must be able to set the course and navigate through the "death valley" of change. To do so implies developing a reasonably complete and accurate understanding of the change to be implemented. Second, the leader must communicate realistic expectations to all those who will be impacted by the change. An individual can remain inside his or her comfort zone so long as their expectations match their reality. It is when expectations and reality clash, that distraction, uncertainty, and confusion take hold and performance drops. Third, by establishing handholds and stepping-stones at critical parts of the journey, a leader can ensure that fellow travelers have stability and security. In the wilderness, a handhold or stepping-stone represents the achievable, incremental goal that enables one to move one step closer to the summit. Leaders cannot be content to simply help others see the summit. They must help their followers to visualize, understand, and grasp the incremental advances which may individually seem insignificant, but collectively define the transformation process. Finally, a leader must encourage the followers to continue to take the individual steps, day by day, that will enable attainment of the ultimate goal. Whether the motivation is the fear associated with remaining in the present state, or benefit to be had by attaining the future state, the leader must be able to articulate and reinforce the rationale for initiating the journey and taking each incremental step toward the goal.

Summary
The objective of this paper was to provide an overview of the body of knowledge surrounding the human response to change and to investigate the consistency and breadth of applicability of those models. Models of the change process were identified in diverse and seemingly unrelated disciplines. Examination of these models revealed two key similarities. First, most followed Lewin's (1952) three-phase model of change. Second, almost all of the models identified degradation of capabilities in the intermediate state. The similarities, differences, and symbiotic relationship of developmental and change models were documented.

The consistency of the change models across multiple fields of study and the breadth of their applicability serve to underscore their fundamental importance to current and future leaders. Their characteristics will manifest themselves at

both the individual and the organizational level. To be effective change managers, leaders must:

- recognize that the true cost of change must include the inevitable initial decline in performance;
- adequately and effectively prepare individual and organizational stakeholders (owners, workers, and customers) for the change process so that expectations do not clash with reality; and
- serve as guides to those journeying through the change process so they will persevere.

The responsibility of leaders therefore is to: understand the path, communicate the expectations, establish the handholds, and encourage the travelers. Doing so will ensure that time spent in the "death valley" of change is minimized and the individual/organization can reach the summit of increased performance on the other side.

References

Adams, J.D. (1969), "Phases of personal and professional development", dissertation, Case Western University, Cleveland, OH.

Adams, J.D. (Ed.) (1984), *Transforming Work: A Collection Of Organizational Transformation Readings*, Miles River, Alexandria, VA.

Adams, J.D., Hayes, J. and Hobson, B. (1976), *Transition: Understanding and Managing Personal Change*, Martin Robertson, London.

Bupp, N. (1996), "The change curve", High Performance Work Organization (HPWO) Partnership Seminar, International Association of Machinists and Aerospace Workers, Placid Harbor, MD, August, pp. 4-11.

Coch, L. and French, J.R.P. Jr (1948), "Overcoming resistance to change", *Human Relations*, Vol. 1.

Deal, T. and Kennedy, A. (1982), *Corporate Cultures*, Addison-Wesley, Reading, MA.

Elgin, D. (1977), "Limits to the management of large complex systems", in *Assessment Of Future National and International Problem Areas*, Stanford Research International, Palo Alto, CA.

Elrod, P.D. and Tippett, D.D. (1998), "An empirical study of the relationship between team performance and team maturity", *Proceedings of the 1998 ASEM National Conference*, October.

Elrod, P.D. and Tippett, D.D. (1999), "An empirical study of the relationship between team performance and team maturity", *Engineering Management Journal*, March.

Fink, S.L. (1967), "Crisis and motivation: a theoretical model", *Archives of Physical Medicine and Rehabilitation*, Vol. 48.

Fisher, D., Rooke, D. and Torbert, B. (2001), *Personal and Organisational Transformations Through Action Inquiry*, Edge/Work Press, Boston, MA.

Grant, P. (1996), "Supporting transition: how managers can help themselves and others during times of change", *Organizations and People*, Vol. 3 No. 4, November.

Grensing, L. (1991), "Managers must plan change", *Office Systems*, Vol. 8 No. 11, November, p. 44.

Harvey, O.J., Hunt, E.E. and Schroeder, H.M. (1961), *Conceptual Systems and Personality Organization*, John Wiley and Sons, New York, NY.

Harvey, T.R. (1990), *Checklist for Change: A Pragmatic Approach to Creating and Controlling Change*, Allyn and Bacon, Boston, MA.

Henderson-Loney, J. (1996), "Tuckman and tears: developing teams during profound organizational change", *Supervision*, Vol. 57 No. 5, May, p. 57.

Imara, M. (1975), "Dying as the last stage of growth", in Kubler-Ross, E. (Ed.), *Death: The Final Stage of Growth*, Prentice-Hall, Englewood Cliffs, NJ.

Katzenbach, J.R. and Smith, D.K. (1993), *The Wisdom of Teams*, McGraw-Hill, Maidenhead.

Katzenbach, J.R. and Smith, D.K. (1994), "Teams at the top", *The McKinsey Quarterly*, Vol. 1, Winter, pp. 71-80.

Kegan, R. (1994), *In Over Our Heads*, Harvard University Press, Boston, MA.

Kubler-Ross, E. (1969), *On Death and Dying*, Touchstone, New York, NY.

Kuhn, T. (1972), *The Structure of Scientific Revolutions*, The University of Chicago Press, Chicago, IL.

Levy, A. and Merry, U. (1986), *Organizational Transformation: Approaches, Strategies, Theories*, Greenwood Publishing Company, Westport, CT.

Lewin, K. (1952), "Group decision and social change" in *Readings In Social Psychology*, Henry Holt, New York, NY.

Lichtentein, B.M. (1997), "Grace, magic and miracles – a 'chaotic logic' of organizational transformation", *Journal of Organizational Change Management*, Vol. 10 No. 5.

Lippitt, G. (1982), *Organizational Renewal*, Prentice-Hall, Englewood Cliffs, NJ.

Mariotti, J. (1996), "Troubled by resistance to change?", *Industry Week*, 7 October, p. 30.

Marx, K. (1867), *Das Kapital*, Great Books of the Western World 50, Encyclopaedia Britannica, Inc., 1952.

Maurer, R. (1996), *Beyond the Wall of Resistance: Unconventional Strategies that Build Support for Change*, Bard Press, Austin, TX.

McWhinney, W. (1992), *Paths of Change*, Sage Publications Inc., Newbury Park, CA.

Menninger, W.W. (1975), "The meaning of morale: a Peace Corps model", in Moyniham, D.P. (Ed.), *Business and Society in Change*, American Telephone and Telegraph Co., New York, NY.

Meriam-Webster (1998), *Webster's New Biographical Dictionary*, Merriam-Webster, Springfield, MA.

Parkes, C.M. (1979), *Bereavement: Studies of Grief in Adult Life*, Tavistock Institute of Human Relations, London.

Perlman, D. and Takacs, G.J. (1990), "The ten stages of change", *Nursing Management*, Vol. 21 No. 4, April, p. 33.

Peters, J.F. (1997), "An empirical correlation of Maslow's hierarchy of human needs levels and team performance", dissertation, The University of Alabama in Huntsville, Hunstville, AL.

Prigogine, I. (1980), *From Being to Becoming: Time and Complexity in the Physical Sciences*, Freeman, San Francisco, CA.

Rashford, N.S. and Coghlan, D. (1989), "Phases and levels of organizational change", *Journal of Managerial Psychology*, Vol. 4 No. 3.

Reynolds, L. (1994), "Understanding employees' resistance to change", *HR Focus*, Vol. 71 No. 6, June.

Rooke, D. and Torbert, W.R. (1998), "Organizational transformation as a function of CEO's development stage", *Organizational Development Journal*, Vol. 16 No. 1.

Rooke, D. and Torbert, W.R. (1999), "The CEO's role in organizational transformation", *The Systems Thinker*, Vol. 10 No. 7.

Schneider, D.M. and Goldwasser, G. (1998), "Be a model leader of change", *Management Review*, Vol. 87 No. 3, March.

Torbert, W. and Fisher, D. (1992), "Autobiographical awareness as a catalyst for managerial and organisational development", *Management Education and Development*, Vol. 23 No. 3.

Wallace, A.F.C. (1966), *Religion: An Anthropological View*, Random House, Inc., New York, NY.

Wilber, K. (2000), *Integral Psychology*, Shambala Publications, Inc., Boston, MA and London.