# Emergence Happens!

## Misguided Paradigms Regarding Organizational Change and the Role of Complexity and Patterns in the Change Landscape

> *We are independent of the change we detect. The longer the lever, the less perceptible its motion. It is the slowest pulsation which is the most vital. The hero then will know how to wait, as well as to make haste. All good abides with him who waiteth wisely; we shall sooner overtake the dawn by remaining here than by hurrying over the hills of the west. (Thoreau)*

In our history many studies have been conducted on the nature of change, many pronouncements made, many interesting viewpoints proffered. Our struggle to understand how we should reflect on change and respond to it continues to this day. In recent years, more attention than ever has been directed to it, particularly in the business world. In a recent article (Falconer, 2001) I decry as misguided the "change management" discipline from its most superficial manifestation down to its very fundamentals. In particular, I challenge the assumptions that change is linear and that it is discrete, and allude to the emergent nature of change and the potential applicability of patterns in understanding, abstracting, and contextualizing emergent properties. The intent of this article is to expand the scope of that one, challenging "change management" on more fronts and giving more attention to the complex nature of change. While the solution offered is essentially the same as in the earlier article, here the concept of business patterns and the use of patterns in this regard are deployed as more cogent means of addressing change as a complex system.

Change cuts across disciplines and spheres; therefore, the scope of analyzing it is daunting in its potential. I am again focusing on the business world and organizational change as the context for the topics I am treating here, as it is not only topical and ready to hand, but already an area of a great deal of the research attention (and, indeed, of the output of the business-book-writing fraternity) related to change. Most of the observations should, however, be applicable to other disciplines and spheres where understanding the nature of change could be turned to advantage.

## UNSEATING THE COMMONLY HELD BELIEFS ABOUT ORGANIZATIONAL CHANGE

## CHANGE IS NOT "MANAGED"

In vogue over the past couple of decades, in particular as a recurring theme in business, has been the notion of "management." As tenuous as this concept is, even in rigid, authoritarian, hierarchical structures like government, the military, and the church, in the business world it has always been something of a "dirty secret" that managers are singularly powerless to "manage" anything, and that this powerlessness increases exponentially for every summational increment in organizational level that a manager attains. Some more astute business observers (Block, 1987; Kotter, 1990; Mintzberg, 1994; Bartlett & Ghoshal, 1995; Hirschhorn, 1997) have noted that the skill sets evident in the best business leaders are not always dominated by the traditional notions of management (setting strategy, designing and partitioning tasks, measuring and reporting progress, assigning and controlling actions) and have more to do with "soft," people-oriented skills like inspiring, empowering, listening and observing, understanding, and coaching.

In short, "management" as a euphemism for "control" is simply a nonstarter in the business world of today, a Dilbertian relic of scientific management and workhouses. Despite this, there appears to be no end to the number of familiar concepts that are having "management" tacked on to them in order to achieve some sort of relevancy; thus, we have "project management," "human resource management," "strategic management," "knowledge management," and what you might suspect would be the overarching concept to all of these (but which often is not, ironically), "change management." The very idea of "change management," no less than the rest of these, strikes one as problematic; overlaying a controlbased concept on to one that seems largely antithetical to control must be wholly inefficient.

Initially, the main problem with the concept of "managing" change is that it *does* connote control-oriented behavior. Anyone with an understanding of human dynamics, particularly as evinced in groups, will be aware that the least effective approach to moving people through a change experience is to direct them, measure their progress, have outsiders tell them what to do, ostracize the resistant, and declare success based solely on events involving inanimate objects like information technology, organizational routines, performance metrics, and the like. Yet this is often exactly what is done and, unbelievably, people still

wonder why change, underwritten in this manner, is inefficacious.

If organizations get past this stage and achieve a slightly higher level of understanding, often they find themselves in the domain of a great deal of the business literature. Other key fundaments of business-guidance writing will be dealt with in subsequent sections of this article (most of which still tend to offer formulaic "silver bullet" solutions to complex problems). However, with regard to the concept of change "management," the next level of understanding is generally built around the notion that you can "lead," "enable," or "steward" (guide, navigate, help, support, coach) change more readily than you can "manage" it; this hints at concerns that are "softer" but still falls prey to the fallacy of influence where change is concerned. The truth is that we can merely observe and learn. Change *exists*, perturbations are a fact of life, and human systems will adapt. Interlopers cannot "manage" change, but they can learn and adapt along with the people who are more directly and consequentially a part of it.

The other issue reflected in "management" is management toward an *objective*. This is management as teleology, or as determinism, and is still mired deeply in the control mentality. The change merchants' tragic error in thinking here is holding to the idea that change is about *being* (and the various states thereof); the reality is that this can never be practicable, as the landscape never remains in one state long enough to permit accurate definition—the territory *was* the map, but is no longer. Change is, instead, all about *becoming*, and the only learning that exists amidst change teeters on the edge of observing and describing the becoming, of which we are in the midst, in a way that can be conceived later, at another time of becoming.

A great deal of change in organizational contexts is focused around "projects," often collections of impactful change elements with funding and nice logos. Projects are, at bottom, all about becoming, not about being. If we were to take a look at the track record of steering projects to precisely their intended objectives in precisely the timeframes envisaged on precisely the budgets set aside, we would find a very low success rate. The message to project teams, therefore, should be to focus on what they can learn along the way, because they will not likely get to where they think they are going anyway. They will get somewhere, and it may be a good place for them to be, but to focus overmuch (as is their wont) on the "planned outcome" is misguided. This is a harsh, *realpolitik* truth that is more truth than wishful business thinking regarding project management can ever be; and you will not read it in books.

A fundamental point that I will re-emphasize here is that change *exists*. Not only that, but it will exist regardless of what you do. Change exists independently of the attention that is paid to it. Observations about change *change*. Change just *is*, except where it "evolves" as a stable system far from equilibrium, constantly seeking tension, rather than resolution—change will happen, and continue to happen, without intervention, and intervention does not necessarily cause change to happen, affect change, or alter the outcome of the change, at least in the way envisaged. If this all sounds a little contentious, this is perhaps because our attitudes to change, particularly organizational change, have been conditioned by the common wisdom and published opinion about it. These beliefs, I argue, are inaccurate, misleading, and deleterious, and need to be unseated.

## CHANGE IS NOT LINEAR

Another fallacious tradition that pervades our modern existence is the concept of linearity: The shortest distance from A to B; if A then B; predictable outcomes; the scientific method; Euclidean geometry; Newtonian physics.

We now are beginning to understand that, while linear relationships are often a simple and useful entry point into any concept, the likelihood that the relationships present in any system are actually *nonlinear* is far greater than the likelihood that they are linear. The more the system involves animate objects—people, the natural environment, and so on— the more certainly it will be rooted in nonlinearity. The rise in prominence of the discipline around complexity and complex systems (Holland, 1995, 1998; Kauffman, 1995; Bak, 1996; Cilliers, 1998; Heylighen *et al.*, 1999; Juarrero, 1999) is a clear sign that this is an inspiring research path, illuminating many areas of interest. It is worth noting also that there is already a noteworthy corpus applying complexity to the firm (Kay, 1984; McMaster, 1996; Stacey, 1996, 1999; Sherman & Schultz, 1998; Wang & von Tunzelmann, 2000).

Change can also be viewed as a complex system. In this context, it becomes obvious why it is very difficult to comprehend how change works or to describe or model it. While thinking about complex phenomena may produce comparably complex knowledge, models, by their nature, are explicit artefacts that reduce the complexity of the modeled phenomena, and the more complex the phenomena, the less likely the models are to describe them adequately. Many writers in the "change management" field (Conner, 1992; Kotter, 1996; Brynjolfsson *et al.*, 1997) seem to believe otherwise (ostensibly holding, instead, that change can quite satisfactorily be modeled), and there is a substantial body of work that describes organizational change on some sort of linear continuum that comprises the change lifecycle. These writers generally consider change to be a linear process, bounded by a clearly articulable beginning, end, and circumscribing boundary conditions, with discrete steps (on which more later) leading methodically (and often effortlessly, if you believe them) from the murk of current reality to the utopia of some shared, lofty, objective state.

Change is clearly never this way, and anyone who believes otherwise has not considered it more than superficially and is potentially in for a surprise. Change starts with a system of people, culture, processes, artefacts, and technology in some complex configuration and circumstances, consists largely of them behaving unpredictably for an indefinite period of time, and has them continuing to behave unpredictably when you stop observing and describing the state of affairs. Change never ends,

regardless of whether you choose to observe the landscape or (heaven forfend) attempt to apply interventions. It is anything but linear.

Setting aside for a moment whether change is in fact complex, it can still quite persuasively be argued that change is certain other things that are directly at loggerheads with the notion that it is linear. First, change is iterative and acquisitive: It cycles around and, in so doing, "augments" itself. This is not necessarily to imply that change is a self-optimizing system—often it seems like a self-degrading system—but merely that it is cyclical outside of whatever transformational cycle it happens to be in, and this cycle is subjecting change, and any change that happens to be going on at the time, to evolution. Sometimes the cycles have nothing whatsoever to do with advancing the cause of any foregoing change, but are simply re-exploring the general domain; the earlier points about change and its disinterest in objectives is relevant here. Change plays with us; we do not play with change. Change cycles, and we do not get more astute in terms of understanding what this means for us.

Similarly, change tends to be recursive: the "here we go again" aspect of change. In other words, it is not uncommon for the same or a similar type of change to recur numerous times, or to spawn change cycles similar to itself but differing in scope or scale. If this form of renewal were in any way predictable, it might actually be useful, but alas it is not.

This characteristic of change—its lack of linearity—is the second key factor that renders the majority of methodologies for "managing" change ineffectual. The inevitable, associated attempts to force-fit approaches to change into linear continua have also played havoc with approaches to managing product lifecycles, systems development lifecycles, and the like. In the systems development field, in particular, iterative development (McConnell, 1996), evolutionary prototyping (Boar, 1984), joint application design (August, 1991), and, latterly, "agile development" or "extreme programming" (Beck, 1999), as well as more innovative approaches to the lifecycle model such as the spiral (Boehm, 1988), the fountain (Henderson-Sellers & Edwards, 1993), and the like have clearly been reactions to the traditional, incredibly constraining linearity of the waterfall model (Royce, 1970). Similarly, business theory is turgid with product lifecycle models, most of which fail to describe the nonlinear, unpredictable nature of the life of a product, especially in our increasingly complex market, consumer, business, and economic landscapes.

## CHANGE IS NOT FORMALIZABLE

Somewhat related to the two previous arguments about change is the notion that you cannot specify a formalized approach to dealing with it. Outside of choosing the wrong lifecycle metaphor, the problem with many methodologies in various domains is that they are attempting to formalize something that will occur differently every time, like trying to mandate the appearance of a tree; the approach strikes one as meaningless.

Change, for its part, has two characteristics that play against a formal definition. First, change is an open, not a closed, system. Most approaches to change management, as stated earlier, define the change landscape as being bounded by a clearly articulable beginning, end, and circumscribing boundary conditions. This is not the way change behaves. It plays with spatial, temporal, participatory, operational, organizational, technological, and any other sort of boundaries that people generally like to try to impose on it, violating them, adjusting them, making people unsure of their existence or their parameters.

Viewing change as a complex system allows us to call into question this conventional notion of "bounding" as regards change. While it is true that there must be an "environment" to provide dynamic interplay with a system *qua* system, the notion of change as system makes evanescent the situating of boundaries "between" environment and system in any of the ways listed above. Instead, where change is the thing under consideration we need to consider "boundaries" more conceptually; otherwise we may discover that change is as problematic to circumscribe as it is to define.

Approaches to "managing" change, like similar approaches to "managing" other unmanageable phenomena, always appear to need to establish boundary conditions; otherwise, in using any typically mechanistic approach favored by designers of methodologies that would say that a methodological framework must circumscribe all aspects of the phenomena being modeled, defining the approach would take an infinite amount of time. The problem is that complex phenomena cannot be so conventionally circumscribed, cannot be understood in their spatial or temporal entirety and squeezed into a static framework, yet can be accommodated systemically if methodologists are willing to break their own rules, which so far they appear unwilling to do.

The second characteristic of change that obviates formal definition is that it is adaptive. In the complexity theory lexicon, change is a *complex adaptive system*, or a system that changes its behavior in response to its environment or its own circumstances. This statement may appear to be in contradiction to my earlier statement that change may not respond to interventions in the way that is expected, but the reality is that change *always* responds, just not *predictably*. An intervention will always have some result, and in some less complex landscapes—they do exist—the result may be close to what was expected, but the degree to which the nature of that result can be predicted in advance is generally small. Also, the degree of confidence that the intervention introduced is the factor that brought about a given result, or that results—desirable or not—are attributable to interventions introduced, is as fuzzy and mutable as you would expect in a nonlinear system.

The real issue here, however, is not the degree to which change responds to artificially introduced interventions, but how change responds to the similarly changing circumstances in the environment it inhabits (on which more below), which is also

difficult to predict even if—and this is rare enough—the potential for these ancillary changes is known and well understood. Generally, nevertheless, the entire change landscape is so complex that this sort of understanding cannot be achieved, and change is better at adapting than we are at predicting how it will adapt or under what conditions such adaptation is more liable to occur.

It is for this reason that instances of a single unforeseen event putting a major project back to zero are more common than people care to admit. Because the methodologies in use are not nearly as adaptive as change, often the only recourse in these situations is to reset everything, redefine the target, and hope that what is left of the funding will get some elements of the project back on their feet and slouching toward an objective.

Open and adaptive approaches are rare. Most of the time people think that such approaches are too vague and tend to be dismissive of them— they like structure, specifics—and this is a careless and unfortunate error.


## CHANGE IS NOT DISCRETE

Perhaps the most fundamental—and counterproductive—component of "change management" methodologies, which seems to be common to them all, is a lifecycle that is discrete—rather than continuous—and allows for the segmenting of the (linear) change lifecycle into "phases" or "stages of concern" that have independent characteristics and are intended for the application of specific methods, techniques, tools, and so on. This characteristic feeds off the misguided assumptions of manageability, linearity, and formalizability already treated, and gives these a very specific presence that runs deeply and fundamentally counter to the nature of change.

The idea of stages of concern reflects a need to break up linear, formalized lifecycles into 7±2 easily digestible parts, a notion that pervades all known lifecycle frameworks. While this reductionist approach might work very well—and might in fact be advisable—in more linear systems (the construction of a building comes to mind), it is not only an awkward construct when applied to nonlinear systems, it can in fact be greatly deleterious to the understanding of the system. Complex systems must be approached in an open, holistic manner. Otherwise, there is a spatiotemporal disconnect, a kind of cognitive dissonance between the dynamic of how the system is behaving (and how your mind is observing and processing the behavior of the system) and the methodological construct that is supposed to be "managing" both, a full-on impedance mismatch. What generally results are sweeping, ramshackle assumptions about change— in all its complexity—in order to shoehorn it into the rigid confines of the stage of concern in which it is supposed to be operating at a given moment, or, in reaction to the frustration this engenders, applying misguided and ineffectual—or harmful—interventions to try to get the change mechanism to fall into line and behave the way it is "supposed to." The very deep need for interaction with change to be on a continuum that is flexible, adaptable, and self-organizing runs so contrary to a construct based on discrete stages that it is surprising that more failures in "managing" change do not reach catastrophe status.

Stages of concern, as discrete, isolatable events, tend in these frameworks to be separated either spatiotemporally—which again reflects the flaw of linearity—or conceptually from each other. While there is often a sketchy causal train connecting the stages, there is generally insufficient traceability between them through either their formal definition or their predefined artefacts to be able to treat a given methodology as a tightly integrated whole. This does not obviate the role of history as a possible trajectory through an imaginary "space of possibilities," but even approximating traceroutes through spatiotemporal or conceptual landscapes *ex post facto* is risky; trying to prescribe them *a priori* is ineffective at best.

Untenable as this situation is, it gets worse. Between the discrete stages of concern in most of these lifecycle frameworks are imaginary boundaries that represent milestones to be achieved. These "planes" are thin membranes, passage through which is openly challenged—often by invitation—by stakeholders in the change under consideration and by myriad other interlocutors. The very notion that the "progress" of change—if such a notion were even tenable when a complex system is under consideration—can be checked or challenged in this way borders on the ridiculous, even if it is reasonable to suggest that the stage of concern from which passage is sought even adequately describes the current state of the change under consideration, which is not a practical reality as discussed above. This is further exacerbated by the notion that these would-be challengers to the movement of change may not even be direct participants in the change under consideration, much less party to its inexorable evolution.

The stewardship of change, in its ideal form, is based on continuous, empirically driven sensemaking with respect to the fleeting, evolving spatiotemporal characteristics of the change—observation and description, in its simplest form, with all the biases, filtering, and base imperfections that implies. The proper perspective of the steward is open, receptive, flexible, and adaptable—mirroring, as much as is practicable, the nature of the change that is being stewarded.

Change shares sparingly. If properties are to be revealed, in the collective sense of the change as opposed to the properties of some of its parts (which would legitimate the reductionist fallacy that I have just identified), and as a result of change interacting with its environment and evolving as a system unto itself, then these properties reveal some new relationship to their environment (on which more below), or *emerge*, in complexity theory parlance. In order for this to happen, our open, receptive, flexible, and adaptable steward must be present and prepared for the emergence to occur. "In the fields of observation, chance favors the prepared mind," in the words of Pasteur.

Whether emergence is more a property of the system or its steward is a topic beyond the scope of this article, but it is probably sufficient to view the emergence of the properties of a complex system like change as an *epiphany*—a tremendous "aha!" on the part of the steward—rather than as some plateau or state of homeostatic equilibrium having been achieved by the complex system itself, which is not *per se* a feature of complex systems.

It is probably better to consider the epiphanies of change as singularities, as the appearance of highly unstable states of order that are then as quickly lost. If we could possibly hold these states in focus, however briefly, could they reveal something to us?

The act of emergence is one that is ephemeral and very hard to generalize. Generally the furthest things from the mind of the person experiencing it are curiosity, awareness, and theorizing about how it is taking place, as this person is rather deeply involved in the experience of emergence itself, which can be rather demanding of concentration and focus. Emergent properties, then, could be viewed as having the properties of artefacts or of empirical episodes—albeit rather special ones—for the purposes of this discussion, in the same way that a person learning a new language from tapes or seeing an unfamiliar animal for the first time is very unlikely to stop and reflect on how this new information is being taken in and processed, but is rather fully absorbed in the actual processing of the new information.

It is in fact the emergence of useful epiphanies about change that is the core of this discussion—and the most fundamental aspect of change stewardship—and one that is sorely under-researched. The four fallacies of understanding change that have been described so far have served to lead us to a point far from where we need to be in this regard. Having done a reasonably thorough job of exploring the erroneous structural elements of "change management," and having presented the key problem requiring a solution that may start to get our relationship to change back on the right track, I now offer a potential investigative thread that might start to reorient our thinking along the proper lines.

## A PROPOSAL: SUPPLANT THE CHANGE PARADIGM OF LINEAR TRACEROUTES THROUGH DISCRETE STATES WITH ONE OF PATTERNS

Having challenged the four pillars of "change management," it is necessary to attempt to replace this structure with something that more appropriately offers direction within the frame of complexity, openness, continuousness, and emergence.

In an earlier article (Falconer, 1999) I introduced the concept of business patterns. In a further article (Falconer, 2001) I suggested the utility of using business patterns within the frame of organizational change. Both of these serve as good precursors to the discussion here. I will expand on these ideas presently, but first some background may be useful.

Briefly, *pattern* describes a knowledge metaphor, which encompasses instantiated artefacts, that is as closely analogous as practicable to the thought patterns envisaged as tacit mental metaphors (see Falconer, 2000) and attempts to encapsulate and formalize them. A *business pattern* essentially lays out a metaphorical device for the capture and reuse of explicit organizational knowledge, in essence a pattern lying in the domain of circumstances and behavior that characterizes and defines a general business milieu. A *pattern language* is to patterns what a conventional language is to words: a means of organizing patterns symbiotically and weaving granularities of patterns together in a fabric, so that they may form the basis not only for discussion, but also for creative ideation and development. Patterns can be clustered or combined into *pattern sets*, which are analogous to concepts, schools of thought, or universes of discourse in more familiar parlance; pattern sets can be thematic, reflective of an exemplar, or highly abstract, and are highly volatile, resist revealing any inherent structure, and can only self-express a fleeting, tentative sense of their own existence.

Within the context of this article, I am suggesting that patterns, pattern sets, and pattern language all provide the "fabric" for the epiphanies of change to be "thrown" into. In this sense, this "fabric" can be said to constitute the "environment" for the complex system that is change, a notion of representation as environment, and the only nonmetaphysical description possible for an (external) environment for change as it has been characterized here. In this context, the "boundaries" between system and environment become conceptual, fluid membranes between phenomena and ideas, or between complex system and pattern language. While the implication of any "structure" may be antithetical to the intent here, the ultimate goal is not necessarily the better organization of explicit artefacts that serve to represent emergent change epiphanies, but rather the underlying fabric they comprise, which could then potentially be used to enhance our understanding of change. Though we may still not be able to "manage" change, we may feel somewhat more comfortable in its presence. To this end, social interaction should drive the embodiment of this fabric, rather than the artefacts themselves. The evolution of the pattern language may, in its dynamic, approximate the evolution of the change under consideration, a yin to its yang.

While the means of using this fabric to derive meaningful insight about change is probably beyond the scope of this article, I

would like to think that it would provide a sort of contextual backcloth, or a *fitness landscape* in the language of complexity, to subsequent epiphanies about change. The patterns, therefore, act as *strange attractors* in the landscape and, like the epiphanies that both invoke and cleave to them, need to be allowed to emerge; the environment that the pattern language defines must permit, and if possible foster, this to occur. In other words, it provides a sort of continuous means of assessing pattern-to-epiphany "fit" in the moment of comparison, from which pattern, epiphany, and comparison all can emerge. The patterns cannot be forced, and the fabric cannot be allowed to become too structured or prescriptive in the manner of the change lifecycle frameworks I have already dismissed; instead, the fabric must be open, continuous, flexible, and adaptable.

To restate the proposal, I am recommending using patterns as the operational metaphor for observing, understanding, and expressing change, and using the pattern language that would emerge both as the representation of the inherent meaning of the change under consideration and, conceptually, as the environment in/with which it interacts. This solution would exhibit the following characteristics:

- Open, holistic, continuous, nonlinear, flexible, and adaptable.

- Having no implication of "management," structuredness, prescription, or methodology.

- Not able to be modeled or described in its essence.

- Driven by emergent phenomena within the change landscape.

In short, it is offered up, optimistically, as a viable alternative to the concept of "change management," and one that offers rich potential.

The concept is well understood to be a highly theoretical one. Even with that characterization it needs further development, and in order to evolve toward a state of practical application it requires still more work. This is nevertheless the right direction, in my opinion, for dealing with change.

## IMPLICATIONS, OPPORTUNITIES, AND FUTURE DIRECTION

I understand that much development remains to be undertaken on this proposal. It is my hope that this article might generate sufficient interest that others may take up the mantle here.

Then, I would recommend extending the research to apply it to a particular cycle of change, to test the efficacy in the real world of change that we all inhabit. The approach is only as good as its applicability.

The various ideas presented in this article, because of their exploratory nature, thus need substantial refinement. I make no apologies for this; in fact, it is my hope that this tentative state will make them more susceptible to insightful responses and recommendations for improvement. I welcome such input.

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