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Getting to Maybe Workshop Resource

Developmental Evaluation and Adaptation

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Two Developmental Evaluation Tracks

One primary use of developmental evaluation is to assist and support social innovators with ongoing adaptation of their interventions to turbulent environments as they encounter the dynamics of complexity. For example, trainers in a rural community leadership development program may expect ongoing revision of their curriculum as target populations change (adapting to a new generation of young people, or immigrants from a new part of the world), new technologies emerge (how to use cell phones for community development networking), and as economic and political patterns shift (recession or boom, conservatives or liberals in power). Developmental evaluation supports ongoing development and adaptation where no fixed model is expected. The emphasis, you'll note, is on *ongoing*. These innovators and program developers never expect to get to a steady-state or fixed model. They have a mind-set of ongoing development, ever adapting to an ever-changing world.

A second, quite different use of developmental evaluation can be to identify emergent patterns of effectiveness that may be stabilized and standardized for dissemination to others facing similar conditions and challenges. The world remains greatly interested in replicable models, "best" practices, and taking interventions *to scale*. Having positioned developmental evaluation in the middle space between bottoms-up adaptive management and top-down dissemination of best

practices (see chapter 4), this chapter looks at when and how developmental evaluation may generate program and intervention models that yield to more traditional formative and summative approaches to evaluation in support of efforts to have wider impact by scaling up and model dissemination.

The adaptive cycle is instructive in this regard, helping us examine the relationship between different major purposes of evaluation: formative, summative, and knowledge-generating (Patton, 2008). Based on work by ecologist C.S. Holling and applied to social systems by Frances Westley, the adaptive cycle is centered on ecosystem system *resilience* defined as “the magnitude of disturbance that can be absorbed before the system changes its structure by changing the variables and processes that control behavior” (Gunderson and Holling, 2002, p. 28).

Resilience is the capacity to experience massive change and yet still maintain the integrity of the original. Resilience isn't about balancing change and stability. It isn't about reaching an equilibrium state. Rather it is about how massive change and stability paradoxically work together. (Westley, Zimmerman & Patton, 2006, p. 65)

At the individual level, resilience is experienced during periods of great transition and challenge: graduation and leaving home; loss of a spouse or child; marriage or divorce; moving to a new community or even a new country; taking on a new job or suddenly being without a job; and other huge shifts in life. During these periods of massive change, nothing seems to be the same. And yet, you are still you. A core “you” remains, resilient. There is an integrity to “you” that isn't altered in spite of all of the changes in your circumstances (Westley, Zimmerman & Patton, 2006, p.65).

Organizations also go through transitions. Resources change with expansion or downsizing. New employees join, others leave. Locations change. New initiatives are added, old ones are phased out. Yet the organization's core remains recognizable as fundamentally the same. Key values and functions remain intact despite major reorientation. Core strategic perspectives and consistent patterns of behavior endure through periods of transition if the organization is resilient. Details change, but not strategic behavior. After studying many different organizations and businesses over time, distinguished management consultant Henry Mintzberg (2007) concluded: "We make such a fuss about strategic change because there is not all that much of it" (p. 16).

Of course, individuals, organizations, communities, and ecosystems manifest different degrees of resilience. There is great interest in understanding and explaining these differences, why one individual bounces back from tragedy while another crushed by it; why some organizations endure and others go under; and how healthy ecosystems can be made more resilient and sustainable. In addressing these important questions, competing definitions of resilience have emerged. No surprise there. That's what academics do: take a concept, define it in different ways, then argue about whose right. So let's join the fray. Why? Because how we think about and understand resilience is connected to how we think about sustainable development, which has implications for how we evaluate sustainable development, which brings us to developmental evaluation. Follow the yellow brick road.

System resilience, then, has implications for both innovation and evaluation. The perspective that informs developmental evaluation is based on cumulative empirical evidence about how complex adaptive systems function, informed first by studies of ecosystems and then validated in studying social systems. System resilience manifests an adaptive cycle. The very notion of a

cycle connotes that change processes manifest repeating phases of growth, decline, reorganization, and new growth, repeating the cycle, what in economic terms are periods of boom and bust.

Moreover, change is rarely if ever incremental and gradual. Instead, it occurs in fits and starts, is episodic rather than continuous, with periods of increase or decrease interrupted by sudden changes in direction and transitions that change fundamental processes and structures. In studying ecosystems Holling found that rare events like hurricanes, forest fires, extreme droughts, floods, or the invasion of alien species can alter ecosystems in fundamental ways, sometimes temporarily, sometimes permanently. In economic systems, Taleb (2007) has documented how rare episodes like extreme financial bubbles or panics, what he calls “black swans” as a metaphor for their unexpected, unpredicted, and outlier characteristics, shape economic and political systems for long periods. The global financial melt-down that began in late 2008 exemplifies the black swan phenomenon. The paradox is that such system-changing rare events are entirely predictable -- predictable in the sense that they will inevitably and certainly occur. We just can't know when, where, or with what magnitude they will occur. But they will occur at some time and some place with enough force to precipitate major systems change. Their occurrence may lead to irreversible changes or the effects may be slowly reversible. Innovations can accelerate change and be magnified by other forces when they ride a wave of system transformations.

Understanding and taking into account the adaptive cycle is important because it draws our attention to the realities of complex, dynamic systems. Both program models and evaluation of those models are typically framed within a *ceteris paribus* world – all things being equal, or holding all else constant, in which the environment is simply *assumed* to be stable, constant, and non-intrusive. That assumption makes for nice, neat, bounded, controlled, and fundamentally

misleading evaluation studies if the object of study (the program, innovation, or intervention) happens, just happens, to be taking place in the real world. Excuse me. All things being equal? Holding all else constant? And in just what universe is that assumption viable? Certainly it's a seductive assumption. Alluring in its simplicity. Elegant in its Camelot-world way. It just happens to be nonsense. But why quibble over the nature of reality. Fairy tales can come true, it can happen to you, if you actually believe the formal methods write-ups in scholarly journals as opposed to the messy ways cutting edge scientists actually do what they do, doings that lead to breakthrough findings (Waller, 2004). Indeed, like ecosystems and economies, science progresses through fits and starts, paradigms dominant and paradigms in decline, all of which is effected by what's going on around it (religious inquisitions, wars, a political regime hostile to science, outbreaks of disease, etc.).

The rise and fall of ecosystems, civilizations, marriages, sports dynasties, political regimes, scientific paradigms – pick your favorite cyclical poison – is everywhere about us and throughout history. It kind of makes one wonder how evaluation got to be so static, treating programs as if they are fixed treatments that can be controlled and replicated. Boggles the mind, it does.

In formulating the ecosystem adaptive cycle, Gunderson and Holling articulated *strategic criteria* compatible with both resilience and evolution. They then extended those criteria, and the adaptive cycle itself, to human systems and institutions. Here's where it gets interesting for our purposes, for they found that *resilience* had two quite different meanings in the ecological literature based on two different notions about what it means for a system to be stable. This is at the heart of how one thinks about what it means for an intervention to become a *model* worthy of replication. The contrasting and, indeed, competing perspectives on stability and resilience “draw attention to

the tension created between efficiency on the one hand and persistence on the other, or between constancy and change, or between predictability and unpredictability.

One definition focuses on efficiency, control, constancy, and predictability -- all attributes at the core of desires for fail-safe design and optimal performance. Those desires are appropriate for systems where uncertainty is low, but they can be counterproductive for dynamic, evolving systems where variability and novelty result in high uncertainty. The other definition focuses on persistence, adaptiveness, variability, and unpredictability -- all attributes embraced and celebrated by those with an evolutionary or developmental perspective. The latter attributes are at the heart of understanding and designing for sustainability. (p. 27)

These different perspectives and definitions led Gunderson and Holling to distinguish two fundamentally different ways of thinking about resilience: *engineering resilience* versus *ecosystem resilience*. Engineering resilience has traditionally focused on “stability near an equilibrium steady state, where resistance to disturbance and speed of return to the equilibrium are used to measure the property.” In contrast, ecosystem resilience “emphasizes conditions far from any equilibrium steady state, where instabilities can flip a system into another regime of behavior -- i.e., to another stability domain. In this case resilience is measured by the magnitude of disturbance that can be absorbed before the system changes its structure by changing the variables and processes that control behavior” (pp. 27-8).

Alternatives Resilience Perspectives:

Engineering Resilience vs. Ecosystem Resilience

Engineering resilience

- Focuses on efficiency, control, constancy, and predictability in conditions of low uncertainty.
- Aims at optimal performance of systems by minimizing threats to performance and maintaining steady state equilibrium.
- Concentrates on stability near an equilibrium steady state, where resistance to disturbance and speed of return to the equilibrium are used to measure sustainability.
- Management and policy emphasize micro, command-and-control approaches.
- Evaluation focuses on stable and consistent elements of the system.

Ecosystem resilience

- Focuses on persistence, adaptiveness, variability and unpredictability under conditions of high uncertainty.
- Aims to adapt by absorbing and adjusting to disturbances by evolving absorptive and adaptive structures and processes.
- Concentrates on the magnitude of disturbance that can be absorbed before the system changes its structure and processes, and the reality of more than one equilibrium.
- Management and policy emphasize the adaptive interplay between stabilizing and destabilizing properties for resilience.
- Evaluation focuses on adaptability of the system.

Sustainability and resilience

Sustainability as an evaluation criterion has generated worldwide interest. The two contrasting approaches to resilience constitute two fundamentally different understandings of what it means for a program or intervention to be sustainable. Philanthropic foundations, for example, typically make sustainability a priority criterion in their grant-making and evaluation. Central to the leveraging strategy and accountability of philanthropic grant-making is that what they support will persist. This shows up in evaluation criteria of persistence, which are essentially an evaluation manifestation of the engineering resilience mindset. Sustainability is inherent in:

- Persistence of the institution.
- Persistence of program activities, services, interventions (this includes transferability to other contexts or replication of programming).
- Persistence of resulting changes for individuals (humans), society (e.g., culture, institutions, etc.), economy, and the environment.

Philanthropic foundations typically eschew long-term funding of programs. They like to support pilot innovations and have them demonstrate effectiveness and stability, then turn them loose, like baby birds pushed out of the nest to fend for themselves. In the past, foundations hoped that government would be impressed by what they had funded and pick up the demonstrations to make them ongoing and therefore sustainable. But given the recent fiscal crisis at all levels of government, legislators and bureaucrats are looking to shed programs not add them. Nor do foundations like to pick up the leavings of other foundations. They each want to do their own thing.

So nonprofit programs have developed expertise in reframing what they do just enough to repackage and propose it as innovation worthy of new funding, an adaptation to the realities of how philanthropy works. Large nonprofits have full-time development staff who manage these gyrations and conceptual gymnastics; they have become adept at making the case that their proposals are both innovative and sustainable, i.e., they will persist when the current foundation's funding ends, usually after three to five years, in some cases longer, and in others, shorter. What they don't say is that the way they will persist is to repackage what they're doing as new and sell it to a new funder as innovative, fostering an insidious cycle of innovative illusion. Becoming skilled at creating illusions of innovative and sustainability/persistence is all part of the philanthropic funding game. Those receiving grants pretend that they have a viable strategy for sustaining funding. Those making the grants pretend to believe them. The actual nonprofit strategy is to promise whatever it takes to get the money and worry about getting more funding later. The actual foundation strategy is to accept promises of sustainability as addressing the sustainability criterion while rigorously avoiding any follow-up evaluation that would actually assess whether sustainability has occurred.

The alternative criteria for sustainability focus on adaptability and responsiveness:

- Awareness of current and emergent needs
- Ability to address emergent needs within the realm of the organization's mission and priorities
- Capacity to adjust to changing contexts
- Flexibility to adjust to unanticipated negative impacts and side effects (e.g., environmental degradation)
- Continuous adaptation of intervention to optimize benefits and minimize harm

- Concern of potential harms of an intervention to future generations (intergenerational equity; inclusion of children and youth specifically). (Schröter, 2009)

This set of evaluation criteria fits the ecosystem resilience mindset.

Gunderson and Holling argue that sustainable relationships between people and nature require an emphasis on ecosystem resilience. This not only shifts the management and policy emphasis from micro, command-and-control approaches to adaptive management ones, but it correspondingly shifts the evaluation emphasis from fidelity and persistence to adaptability and responsiveness, the essence of ongoing developmental evaluation. The stakes for which approach dominates the policy, programming, and evaluation world are high, indeed, and at the heart of discussions and debates about sustainable development.

Exclusive emphasis on the first definition of resilience, engineering resilience, reinforces the dangerous myth that the variability of natural systems can be effectively controlled, that the consequences are predictable, and that sustained maximum production is an attainable and sustainable goal... [and] that leads to the pathology of resource management....As ecosystem resilience is lost, the system becomes more vulnerable to external shocks that previously could be absorbed.

These are two contrasting aspects of stability. One focuses on maintaining *efficiency* of function (engineering resilience); the other focuses on maintaining *existence* of function (ecosystem resilience). Those contrasts are so fundamental that they can become alternative paradigms whose devotees reflect traditions of a discipline or of an attitude more than of a reality of nature. (Gunderson and Holling, 2002, p. 28; italics in the original)

Gunderson and Holling trace at length the origins and assumptions of these alternative paradigms. Evaluators will find the paradigm distinctions familiar for they are at the heart of the enduring debate between advocates of the quantitative/experimental/deductive evaluation paradigm versus the qualitative/naturalistic/inductive paradigm. (For an in-depth discussion of these paradigm distinctions, their epistemological and methodological roots, and their evaluation implications, see Patton, 2008, chapter 12). Despite increasing attention to mixed methods and periodic calls for the end of the evaluation paradigm debates, the competing perspectives endure. Coming at the evaluation paradigm distinctions afresh through the lens of the contrasting resilience paradigms reinforces how fundamentally different these worldviews are, why it is hard to find common ground, and why the paradigm debates persist, Talk about sustainability!

But wait. All is not lost. Ironically, the adaptive cycle work of Holling and Westley offers another lens through which to view the paradigm distinctions and puts them in relationship with each other instead of in competition with each other. Each evaluation paradigm has a place in the adaptive cycle. The adaptive cycle highlights different system conditions at different phases of the cycle and suggests that the challenge is to match the evaluation approach to the phase of an innovation. Let's see how this works.

The adaptive cycle

As noted earlier, the adaptive cycle emerged from Holling's research on forests that had thrived for hundreds of years. Far from being stable or in a state of equilibrium, he found that their health and resilience involved regularly adapting to fires, disease, and periods of drought. He identified four phases that make up a recurring adaptive cycle: release, reorganization, exploitation, and conservation. This cycling through phases, with major transitions from one stage to another,

was observable in all healthy ecosystems. However, making the transitions is far from guaranteed. If adaptation doesn't occur from one phase to another, the health of the ecosystem is threatened.

Exhibit 1

The Adaptive Cycle

It's worth working through and understanding the technical and scientific details of the adaptive cycle before we turn to its implications for evaluation generally and developmental evaluation specifically. The terminology and concepts can seem academic and dense upon first encounter, but the implications are sufficiently profound that it's worth struggling with them a bit. The adaptive cycle takes the form of an infinity figure constructed along two dimensions of a matrix. The horizontal dimension (X-axis) depicts the diversity of the system along a "connectedness" continuum with great variety on one end, e.g., high biodiversity in an ecosystem, and high sameness on the other end, e.g., domination by a single species like pine trees in a forest.

The degree of connectedness has to do with the relationship among controlling variables in the system. “Low connectedness is associated with diffuse elements loosely connected to each other whose behavior is dominated by outward relations and affected by outward variability. High connectedness is associated with aggregated elements whose behavior is dominated by inward relations among elements of the aggregates, relations that control or mediate the influence of external variability”. The vertical dimension (Y-axis) measures the extent to which the resources in a system are released (actually being used) or stored (available for potential use).

The upper right quadrant (K , for kappa) represents *the conservation phase* of a mature ecosystem, like a pine forest. Plant biodiversity is relatively low and the system’s resources are devoted to (stored in) the dominating species, e.g., the pines. The lower left quadrant (r) is *the exploitation phase* when resources are being released in a variety of ways, the mirror image of conservation, like the varying kinds of new growth that emerge after a forest fire. The letters K and r to label the quadrants are taken from “the traditional designation of parameters of the logistic equation” in which r expresses a rate of growth of a population and K expresses its sustained plateau or maximum level (p. 33). In ecology, “ r -types” grow rapidly with high competition among competing varieties, like brush, while K -types grow more slowly but gradually capturing more resources, like trees. Economic r -types would be entrepreneurs and small businesses while K -types would be large bureaucracies and multi-national corporations. In evaluation, r -types would be small-scale, short-timeline, local studies, while K -types would be large-scale, longer timeline, more controlled studies.

The lower right quadrant (Ω , for omega), *the release phase*, is when resources that have been locked up in a dominant species are set loose, as occurs when a fire ravages a forest, or a large

business fails opening up new opportunities for small businesses. What had been conserved as a dominant system ends (omega) opening the way for a new beginning (α , or alpha), the upper left quadrant, designated *the reorganization phase*.

The real significance of the adaptive cycle, however, is not so much distinguishing the quadrants as but depicting and understanding the relationships among them.

During this [adaptive] cycle, biological time flows unevenly. The progression in the ecosystem cycle proceeds from the exploitation phase (r phase) slowly to conservation (K phase), very rapidly to release (Ω phase), rapidly to reorganization (α phase), and rapidly back to exploitation. During the slow sequence from exploitation to conservation, connectedness and stability increase and a "capital" of nutrients and biomass is slowly accumulated and sequestered. Competitive processes lead to a few species becoming dominant, with diversity retained in residual pockets preserved in a patchy landscape. While the accumulated capital is sequestered for the growing, maturing ecosystem, it also represents a gradual increase in the potential for other kinds of ecosystems and futures. For an economic or social system, the accumulating potential could as well be from the skills, networks of human relationships, and mutual trust that are incrementally developed and tested during the progression from r to K. Those also represent a potential developed and used in one setting that could be available in transformed ones. (Gunderson and Holling, 2002, p. 35).

Frances Westley, having worked extensively with ecologists, notably on global initiatives to save endangered species as described in the introduction (Westley & Miller, 2003), has creatively applied the adaptive cycle to innovation and organizational/societal change. In her framing, the four

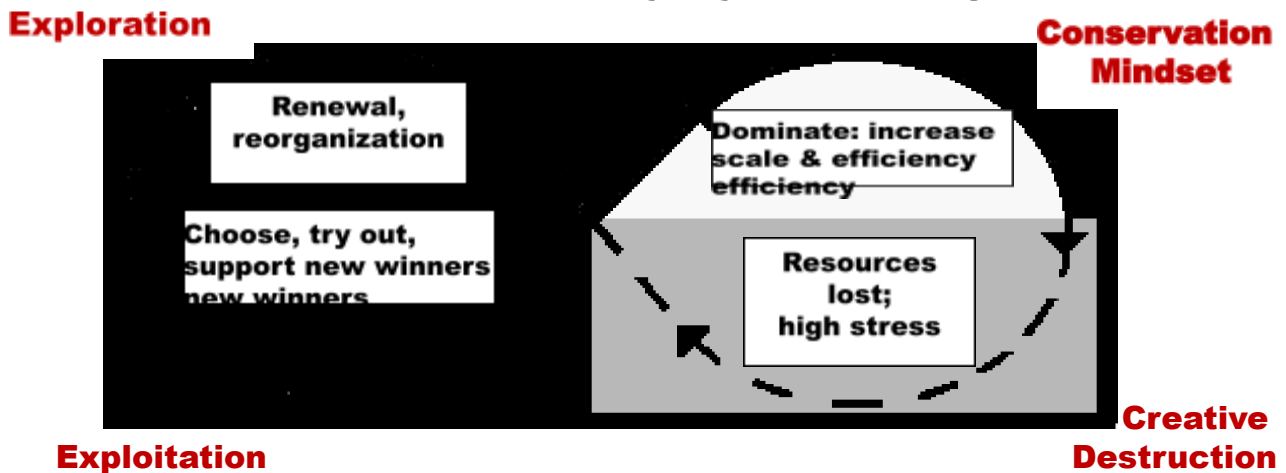
quadrants represent different “psychosocial regimes.” (see Exhibit 7.3) During a *conservation psychosocial regime*, the controlling variables are bureaucratic rules that impose standardization; the emphasis is on accountability and increasing efficiency; technocrats and bureaucrats dominate. These regimes become increasingly rigid with inflexibility inhibiting adaptability until the regime topples into a phase of creative destruction, the phrase coined by economist Alfred Schumpeter in the 1940s when he observed that healthy economies go through cycles of destruction that, painful and dislocating as such destruction tends to be, the transition spurs innovation and creativity.

During the psychosocial regime of creative destruction, resources become scarce, downsizing is widespread, fear increases, and trust breaks down resulting in high stress, confusion, identity crisis, and depression among both individuals and groups. However, those who thrive on crisis, who’ve been on the outside looking in, and/or see the potential for new opportunities feel hopeful, even optimistic, as the old regime falls into disarray. They facilitate the transition to the psychosocial regime of *exploration*. This is a time of widespread, disparate experimentation; creative initiatives lead to lots of failures, but the few successes start to attract resources; there’s a sense of openness, a desire, even demand for, innovation; but uncertainty is high, predictability is low, for things are in flux and it’s not at all certain what will result. Creative people find each other, self-organizing networks emerge, entrepreneurs flourish with the buzz of big ideas and new opportunities, but those who need stability and control are flummoxed. As promising innovations emerge and attract resources, the transition from exploration to exploitation occurs.

The next phase, the psychosocial regime of *exploitation* involves turning creative ideas and early prototypes into testable models and demonstration projects. A thousand flowers blooming (exploration) gives way to a few that attract favor, preference, and support. Team-builders and the

engineers come into their own, showing how to take creative concepts and turn them into real projects and products. The divergence processes that characterize the exploration phase (looking everywhere and anywhere for ideas) converge into focusing on a few of the most promising possibilities, learning about them (steep learning curve in this phase), and concentrating resources. The competition among these projects and products leads to winners and losers with the winners growing into dominance, and the cycle returns to where we began, the conservation regime of stability, locked-up resources, and the dominance of what are thought to be enduring “best practices.”

Exhibit 2 Westley Psychosocial Regimes



One can apply the adaptive cycle to map technological ups and downs, for example, small cars to large cars to SUV domination to Hummers to hybrids and demand for new approaches to smaller cars (e.g., electric, fuel cell) with the bankruptcy of General Motors along the way, their own examples of the corporate adaptive cycle at work.

Scientific paradigms can be mapped similarly. Consider the plight of Pluto. Discovered in 1930, then exploited as the final piece of our solar system, a perspective that dominated astronomy

and, not incidentally, children's school books and science projects for 80 years. Then, creative destructive: Pluto reduced to merely one of many objects in the Kuiper belt, no longer a planet. In 2006, the General Assembly of the International Astronomical Union adopted a definition of planets that made Pluto a dwarf, at best. This has provoked continuing debate and, for long-time Pluto admirers and *aficionados*, heart-ache at its perceived demotion and loss, though Pluto itself is still out there, unchanged, and oblivious to its roller coaster ride through the scientific adaptive cycle. Meanwhile, though diminished in status in astronomical circles, Pluto is ascendant in lexicology where the American Dialect Society chose "plutoed" as its 2006 Word of the Year, defining "*to pluto*" as "*to demote or devalue someone or something.*" And politicians, sensing an opportunity to pander to confusion and ignorance, an opportunity never to be missed, rose to the defense of poor Pluto. As I write, politicians in at least two states (New Mexico and Illinois) have passed resolutions reaffirming Pluto's status as a planet. "The rise and fall of America's Favorite Planet" (Tyson, 2009) offers an intriguing example of an intellectual adaptive cycle, one preceded some two thousand years ago by the rise and fall of Pluto as a Roman god. Pluto worshippers (god or planet) take heart. You're currently experiencing creative destruction (or in Holling's softer terminology, *release*), but be attentive to possibilities for exploration and reorganization, organize yourselves for a new phase of exploitation, and you too may once again dominate.

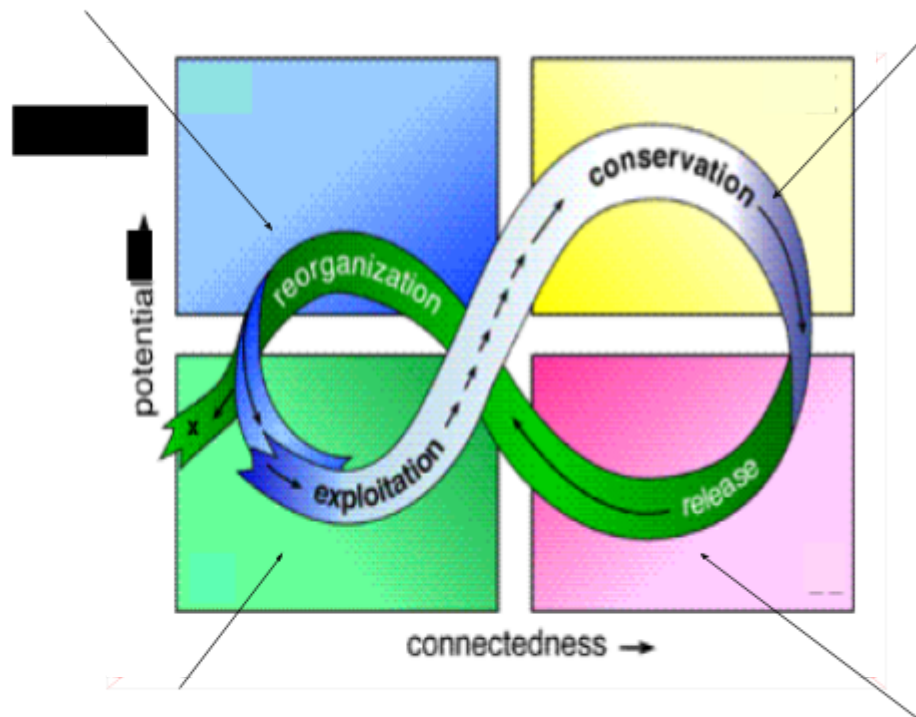
All kidding aside, the adaptive cycle is serious stuff. And the transitions from one phase (or regime) to the next can be quite problematic, offering perils, uncertainties, and traps. We'll look at those anon. First (and finally), let's look at the implications of the adaptive cycle for evaluation.

Evaluation and the Adaptive Cycle

Developmental evaluation is especially useful during the alpha phase of reorganization, exploration, and innovation. This is when social innovators try out new ideas, experiment, and learn by doing. A lot that's tried won't work; some will. Developmental evaluation helps innovators know the difference, moving on from dead ends and further exploring what looks promising. In highly turbulent environments and complex situations, developmental evaluation may be ongoing in assisting and supporting social innovators adapt their interventions as they encounter the nonlinear dynamics of complexity. But the adaptive cycle alerts us to the possibility, even the likelihood, that some ideas and innovations will emerge that hold the promise of becoming models for change that can be taken to scale to increase impact. Social innovators typically want to have big impacts. They are visionaries. They love to experiment and try things out, but as they discover something that works, they want to share it with others, expand the arena of impact, even make a global difference. When that happens, when aspirations turn from development and adaptation to model-building and dissemination, developmental evaluation can yield to traditional formative and summative evaluation. Exhibit 7.4 shows this transition, mapping different purposes and uses of evaluation onto the adaptive cycle.

Exhibit 3

Evaluation and the Adaptive Cycle



Summative evaluations judge the *overall effectiveness of a program* and are particularly important in making decisions about continuing or terminating an experimental program, demonstration project, or other innovation. As such, summative evaluations are often requested by funders. *Formative evaluation*, in contrast, focuses on ways of improving and enhancing programs and innovations, getting them stabilized, standardized, and *ready for summative evaluation*. Michael Scriven (1967: 4043) introduced the summative-formative distinction in discussing evaluation of educational curriculum, first improving a pilot curriculum (formative evaluation) then deciding if it should be judged effective and disseminated (summative evaluation). The distinction has since become a fundamental evaluation typology (Patton, 2008).

The additional point here is that formative evaluation supports the exploitation phase of innovation by fine-tuning a model -- improving and stabilizing it so that it is ready for and can be appropriately subjected to a summative test. A positive summative evaluation means that an intervention or innovation is ready for prime time, meaning it is primed for taking to scale. It works. It is effective, and ideally cost-beneficial, at least within the context where it has been evaluated summatively. Going to scale means aspiring to dominance, which is the conservation quadrant of the adaptive cycle. The foreloop of the adaptive cycle, from exploitation to conservation, corresponds to the evaluation transition from formative to summative.

Programs and innovations that attain summative confirmation because of demonstrated effectiveness are rightfully sought after, supported, and revered. Evaluation of the dissemination of such initiatives focuses on fidelity, assuring that the summatively validated model is appropriately and rigorously replicated. Resources get locked up in this most-favored, best practice model. Therein lies a potential rigidity trap, because context changes over space and time. Rigid adherence to a validated model in the conservation phase holds the seeds of its own destruction because things will inevitably change. The world won't stand still. The model will begin losing effectiveness and adherents as new challenges emerge for which it is ill-suited. Resources controlled by the dominant model will be released and eventually lost. It will fall into disfavor and those dedicated to it will experience the woes and tumult of creative destruction.

Decline ushers in an opportunity for knowledge generation and harvesting lessons learned (Patton, 2008, pp. 131-137). Knowledge generation changes the unit of analysis as evaluators look across findings from different programs and innovations to identify *general patterns of effectiveness* to better understand how context affects and conditions effectiveness and efficiency. The lessons

harvested during resource release and creative destruction can provide the foundation for new ideas and experiments in the exploration phase. The backloop in the adaptive cycle from release to reorganization is where lessons learned provide a framework for developmental evaluation inquiries, supporting exploration with principles and wisdom gleaned from past initiatives.

Through the Looking Glass of the Adaptive Cycle: Examples

A new president is appointed at a philanthropic foundation with a mandate to dismantle some major long-term programs favored by her predecessor. Being sensitive to the havoc this will cause among program officers with expertise in these programs and existing grantees as they lose funding, the language is gently bureaucratic: “pursuing new strategic opportunities;” “revisiting priorities”; or “aligning programs with a new vision and mission.” In other words, it won’t be called “creative destruction,” but it is, and feels like it to those whose previous dominance is now in decline. They’re likely to miss the creative part. Evaluation-wise, a savvy new president will initiate a process of harvesting lessons: What worked well in the programs and initiatives being eliminated? What can be learned about how the foundation has done business in the past? What kinds of relationships with grantees had been established, with what benefits and what difficulties?

At the same time, the new president wants to begin innovative programming in an emergent arena, perhaps initiatives with *transnationals* (people who live in two or more countries, like Mexico and the United States, and move back and forth), integrated environmental and health economic approaches, or microfinance for indigenous and aboriginal peoples. She creates exploratory relationships with people knowledgeable about and involved in these emergent arenas of action and begins making innovative, open-ended grants, giving grantees lots of room to try things out, build networks, and see what emerges. Developmental evaluation supports the grantees’

explorations and captures what is emerging so that those involved can learn from each other, strengthen their networks, and facilitate the foundation's decisions about where to put more resources. A few of the exploratory projects begin to look like models that are worthy of and attracting national and international interest. New and higher levels of funding for these select models requires proposals with clear, specific, and measureable outcomes – and a period of formative evaluation. Within two or three years, some of the models are expected to be sufficiently well-formed and stabilized to be ready for rigorous summative evaluation. Those that demonstrate success will be supported to disseminate the model and expand the people and places engaged with the model.

Meanwhile, however, the foundation continues to fund social innovators and networks exploring new possibilities. Within a five-to-ten year time span, the foundation's portfolio will have grants and corresponding evaluation activities *in each of the quadrants of the adaptive cycle*: exploratory and innovative endeavors supported by developmental evaluation; pilot models that have emerged from exploration that are being fine-tuned and formalized through formative evaluation (exploitation); and promising models being validated through summative evaluation and, when successful taken to scale (conservation).

When conducting training on the adaptive cycle, we have participants undertake an exercise in which they assess which projects and initiatives in their organization are in which quadrants. Anyone in an organization of any size can usually identify some areas of mature programming (dominance); some areas of actual, impending, or suspected decline; some areas of exploration and hoped-for innovation; and some areas where pilot models are being worked on and getting tested before being expanded or taken to scale (aspiring to become “best practice”). Participants find the

exercise initially challenging, but ultimately useful and enlightening. They come to see that the adaptive cycle is not necessarily monolithic in an organization. One large program or organization can have activities and initiatives in each quadrant at the same time, as well as some in transition along the foreloop or backloop. And for our purposes here, they come to see that the evaluation issues and methods are different in each quadrant, and different on the foreloop (formative to summative) than on the backloop (harvesting lessons to support exploration and innovation). The importance of matching the evaluation to an initiative's stage of development becomes understood.

The adaptive cycle scenario can be applied to the ascent and decline of government initiatives. When the party in power changes, or when a new president or prime minister is elected, changes will occur. Some favorite initiatives of predecessors will fall by the wayside, while those of the new incumbent will emerge and take hold. Under the Bush Administration (2000-2008), organizations that offered or supported abortion were not eligible for federal funds, domestically or internationally, a reversal of Clinton's policy. The conservative Bush policy became dominant. As soon as President Obama was elected, he reversed the Bush policy, not only allowing funding for organizations linked with abortion services or counseling, but initiated explorations of new initiatives aimed at exploring innovative approaches to family planning. The same policy reversal occurred with regard to stem cell research.

Cycles in university offerings can be illuminated and depicted similarly. University departments go through periods of centralization (carefully prescribed required courses in a discipline) followed by periods of decentralization (greater flexibility and more freedom in selecting courses for a major). When requirements are heavily prescribed, specifying core knowledge, mandated courses become dominant. Over time, students and faculty bristle at the narrowness of

the restrictions and begin demanding more openness and increased options. A cycle of decentralization ensues, creatively destroying the previously dominant definition of what the discipline entailed and openly a period of innovation and exploration. New courses are developed, piloted, and adopted. Requirements and mandates are relaxed. Interdisciplinarity flourishes. Amidst all this ferment, concerns arise about the lack of focus, the absence of agreed-on core disciplinary knowledge, and a period of centralization ensues. But the newly established core is not identical to the previously agreed-on core. What is dominant changes, sometime in major ways, sometimes more subtly, but rarely does the centralization-decentralization cycle end up in the same place. In sociology, I've lived through this cycle several times in my lifetime.

More generally, Kuhn's (1970) structure of scientific revolutions fits the adaptive cycle. Certain ideas become dominant in a discipline (e.g., Newtonian physics) until that framework fails to answer new questions. The dominance of the primary paradigm begins to wither under close examination and a period of innovation and competing ideas ensues, with new ideas (Quantum physics) gathering force, being tested, and eventually becoming the new, dominant paradigm.

I came to the University of Minnesota in the 1970's and became part of the Minnesota Extension Service (historically known as agricultural extension or Cooperative Extension). The dominant model was an extension office and agents in every county. Minnesota has 87 counties, thus 87 county extension offices. This model was sacrosanct. It had been around for a century and survived the Great Depression. The university's commitment was absolute. Extension had enormous influence in the state legislature, where rural legislators, many of whom had come through Extension's 4-H programs or had benefitted from Extension advice on their family farms, held controlling power. Then in the 1990s, it all unraveled, not only in Minnesota, but throughout the

country. The decline of family farms, the increasing size of the much smaller number of remaining farms, the emergent dominance of corporate farming, the globalization of agriculture, communication changes with new technologies and the Internet that made information widely available, state and federal budgets crises, refocusing in universities, and the extension-agent-in-every-county model vanished. Regional offices have emerged. Extension is seeking new roles and partners. New extension models and programs are being tested. Extension has had to adapt to a changing world – painfully, with both resistance and renewed vision, reactively and creatively, with longing looks backward and hopeful looks forward, but deeply enmeshed in uncertainty and turbulence. Extension’s county agent model once ruled. Now it is gone. I was Futures Editor for the *Journal of Extension* in the 1980s. For three years I wrote columns about the new directions in Extension and the need for adapting to emergent conditions. The only constant I foresaw, the one mainstay I was sure would endure, was the county-based agent, up-close and personal in a bottoms-up, grassroots structure. The demise of the county agent was unimaginable to me. Had I understood the adaptive cycle in those days of futuring, I might have been more prescient. Or perhaps not.

- Aims to adapt by absorbing and adjusting to disturbances by evolving absorptive and adaptive structures and processes.
- Concentrates on the magnitude of disturbance that can be absorbed before the system changes its structure and processes, and the reality of more than one equilibrium.
- Management and policy emphasize the adaptive interplay between stabilizing and destabilizing properties for resilience.
- Evaluation focuses on adaptability of the system.

For more information and deeper discussion see *Developmental Evaluation* (Patton, 2011).