

ter side's re-
e of the time
onry, and to
perceived ad-
ch side were
incentives to
the long-term
ortant. In the
tential. They
s are all fairly
for the "sys-
ur in our per-

6

NATURE'S TEMPLATES: IDENTIFYING THE PATTERNS THAT CONTROL EVENTS

Some years ago, I witnessed a tragic accident while on an early spring canoe trip in Maine. We had come to a small dam, and put in to shore to portage around the obstacle. A second group arrived, and a young man who had been drinking decided to take his rubber raft over the dam. When the raft overturned after going over the dam, he was dumped into the freezing water. Unable to reach him, we watched in horror as he struggled desperately to swim downstream against the backwash at the base of the dam. His struggle lasted only a few minutes; then he died of hypothermia. Immediately, his limp body was sucked down into the swirling water. Seconds later, it popped up, ten yards downstream, free of the maelstrom at the base of the dam. What he had tried in vain to achieve in the last moments of his life, the currents accomplished for him within seconds after his death. Ironically, it was his very struggle against the forces at the base of the dam that killed him. He didn't know that the only way out was "counterintuitive. If he hadn't tried to keep his head above water, but instead dived down to where the current flowed downstream, he would have survived.

This tragic story illustrates the essence of the systems perspective, first shown in the beer game in Chapter 3, and again in the arms race at the beginning of Chapter 5. *Structures of which we are unaware hold us prisoner.* Conversely, learning to see the structures within which we operate begins a process of freeing ourselves from previously unseen forces and ultimately mastering the ability to work with them and change them.

One of the most important, and potentially most empowering, insights to come from the young field of systems thinking is that certain patterns of structure recur again and again. These “systems archetypes” or “generic structures” embody the key to learning to see structures in our personal and organizational lives. The systems archetypes—of which there are only a relatively small number¹—suggest that not all management problems are unique, something that experienced managers know intuitively.

If reinforcing and balancing feedback and delays are like the nouns and verbs of systems thinking, then the systems archetypes are analogous to basic sentences or simple stories that get retold again and again. Just as in literature there are common themes and recurring plot lines that get recast with different characters and settings, a relatively small number of these archetypes are common to a very large variety of management situations.

The systems archetypes reveal an elegant simplicity underlying the complexity of management issues. As we learn to recognize more and more of these archetypes, it becomes possible to see more and more places where there is leverage in facing difficult challenges, and to explain these opportunities to others.

As we learn more about the systems archetypes, they will no doubt contribute toward one of our most vexing problems, a problem against which managers and leaders struggle incessantly—specialization and the fractionation of knowledge. In many ways, the greatest promise of the systems perspective is the unification of knowledge across all fields—for these same archetypes recur in biology, psychology, and family therapy; in economics, political science, and ecology; as well as in management.²

Because they are subtle, when the archetypes arise in a family, an ecosystem, a news story, or a corporation, you often don’t see them so much as feel them. Sometimes they produce a sense of *déjà vu*, a hunch that you’ve seen this pattern of forces before. “There it is again,” you say to yourself. Though experienced managers already know many of these recurring plot lines intuitively, they often don’t

know how to explain them. The systems archetypes provide that language. They can make explicit much of what otherwise is simply “management judgment.”

Mastering the systems archetypes starts an organization on the path of putting the systems perspective into practice. It is not enough to espouse systems thinking, to say, “We must look at the big picture and take the long-term view.” It is not enough to appreciate basic systems principles, as expressed in the laws of the fifth discipline (Chapter 4) or as revealed in simulations such as the beer game (Chapter 3). It is not even enough to see a particular structure underlying a particular problem (perhaps with the help of a consultant). *This can lead to solving a problem, but it will not change the thinking that produced the problem in the first place.* For learning organizations, only when managers start thinking in terms of the systems archetypes, does systems thinking become an active daily agent, continually revealing how we create our reality.

The purpose of the systems archetypes is to recondition our perceptions, so as to be more able to *see* structures at play, and to see the leverage in those structures. Once a systems archetype is identified, it will always suggest areas of high- and low-leverage change. Presently, researchers have identified about a dozen systems archetypes, nine of which are presented and used in this book (Appendix 2 contains a summary of the archetypes used here). All of the archetypes are made up of the systems building blocks: reinforcing processes, balancing processes, and delays. Below are two that recur frequently, and which are steppingstones to understanding other archetypes and more complex situations.

ARCHETYPE 1: LIMITS TO GROWTH

DEFINITION

A reinforcing (amplifying) process is set in motion to produce a desired result. It creates a spiral of success but also creates inadvertent secondary effects (manifested in a balancing process) which eventually slow down the success.

MANAGEMENT PRINCIPLE

Don’t push growth; remove the factors limiting growth

WHERE IT IS FOUND

The limits to growth structure is useful for understanding all situations where growth bumps up against limits. For example, organizations grow for a while, but then stop growing. Working groups get better for a while, but stop getting better. Individuals improve themselves for a period of time, then plateau.

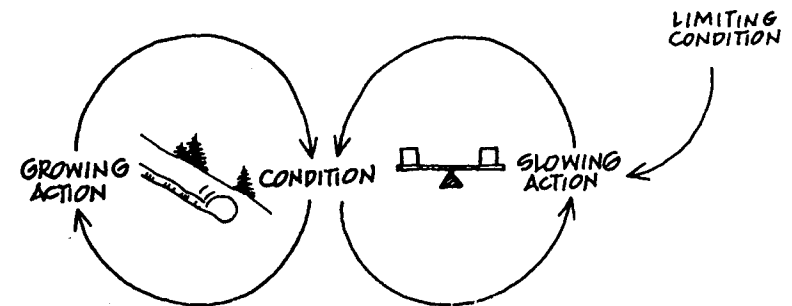
Many sudden but well-intentioned efforts for improvement bump up against limits to growth. A farmer increases his yield by adding fertilizer, until the crop grows larger than the rainfall of the region can sustain. A crash diet works at first to shave off a few pounds of fat, but then the dieter loses his or her resolve. We might "solve" sudden deadline pressures by working longer hours; eventually, however, the added stress and fatigue slow down our work speed and quality, compensating for the longer hours.

People who try to break a bad habit such as criticizing others frequently come up against limits to growth. At first, their efforts to stop criticizing pay off. They criticize less. The people around them feel more supported. The others reciprocate with positive feelings, which makes the person feel better and criticize less. This is a reinforcing spiral of improved behavior, positive feelings, and further improvement. But, then, their resolve weakens. Perhaps they start to find themselves facing the aspects in others' behavior that really gives them the most trouble: it was easy to overlook a few little things, but *this* is another matter. Perhaps, they just become complacent and stop paying as close attention to their knee-jerk criticisms. For whatever reason, before long, they are back to their old habits.

Once, in one of our seminars, a participant said, "Why, that's just like falling in love." Cautiously, I asked, "How so?" She responded, "Well, first, you meet. You spend a little time together and it's wonderful. So you spend more time together. And it's more wonderful. Before long, you're spending all your free time together. Then you get to know each other better. He doesn't always open the door for you, or isn't willing to give up bowling with his buddies—every other night. He discovers that you have a jealous streak, or a bad temper, or aren't very neat. Whatever it is, you start to see each other's shortcomings." As you learn each other's flaws, she reminded the rest of us, the dramatic growth in feelings comes to a sudden halt—and may even reverse itself, so that you feel worse about each other than you did when you first met.

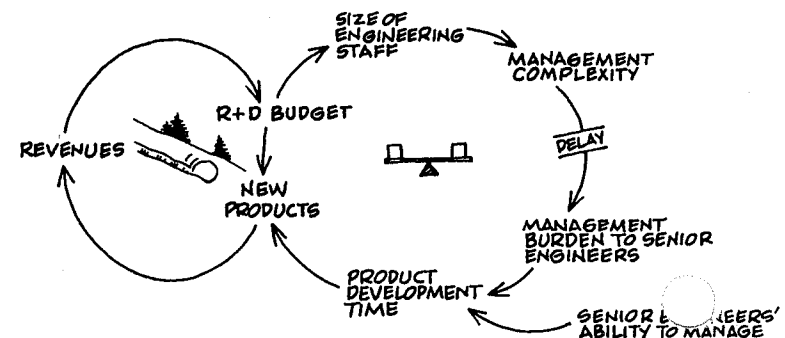
STRUCTURE

In each case of limits to growth, there is a reinforcing (amplifying) process of growth or improvement that operates on its own for a period of time. Then it runs up against a balancing (or stabilizing) process, which operates to limit the growth. When that happens, the rate of improvement slows down, or even comes to a standstill.



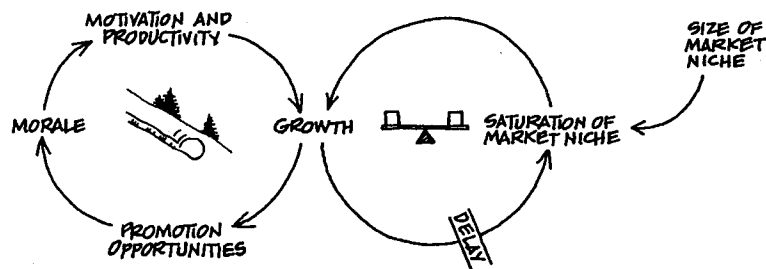
UNDERSTANDING AND USING THE STRUCTURE

Limits to growth structures operate in organizations at many levels. For example, a high-tech organization grows rapidly because of its ability to introduce new products. As new products grow, revenues grow, the R&D budget grows, and the engineering and research staff grows. Eventually, this burgeoning technical staff becomes increasingly complex and difficult to manage. The management burden often falls on senior engineers, who in turn have less time to spend on engineering. Diverting the most experienced engineers from engineering to management results in longer product development times, which slow down the introduction of new products.³



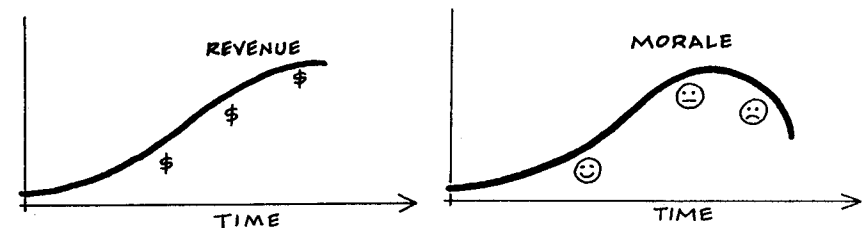
To read any "limits to growth" structure diagram, for example, start with the reinforcing circle of growth. That circle provides the structure with its initial momentum. Walk yourself around the circle: remind yourself how new product growth might generate revenues, which in turn can be reinvested to generate more new products. At some point, however, the forces will shift—here, for example, the growth in R&D budget eventually leads to complexity beyond the senior engineers' ability to manage without diverting precious time from product development. After a delay (whose length depends on the rate of growth, complexity of products, and engineers' management skills), new product introductions slow, slowing overall growth.

Another example of limits to growth occurs when a professional organization, such as a law firm or consultancy, grows very rapidly when it is small, providing outstanding promotion opportunities. Morale grows and talented junior members are highly motivated, expecting to become partners within ten years. But as the firm gets larger, its growth slows. Perhaps it starts to saturate its market niche. Or it might reach a size where the founding partners are no longer interested in sustaining rapid growth. However the growth rate slows, this means less promotion opportunities, more in-fighting among junior members, and an overall decline in morale. The limits to growth structure can be diagrammed as follows:⁴



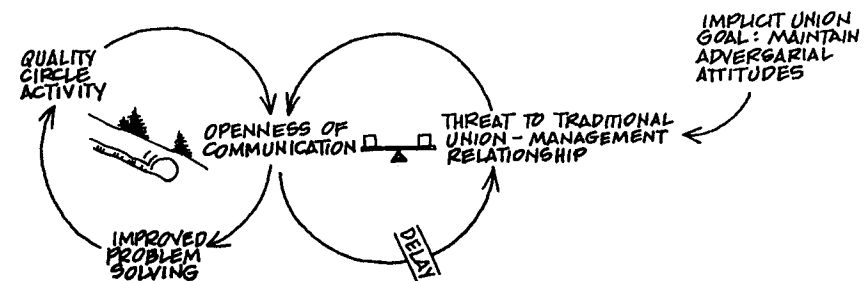
PATTERN OF BEHAVIOR

In each of these structures, the limit gradually becomes more powerful. After its initial boom, the growth mysteriously levels off. The technology company may never recapture its capabilities for developing breakthrough new products or generating rapid growth.



Eventually, growth may slow so much that the reinforcing spiral may turn around and run in reverse. The law firm or consulting firm loses its dominance in its market niche. Before long, morale in the firm has actually started on a downward spiral, caused by the reinforcing circle running in reverse.

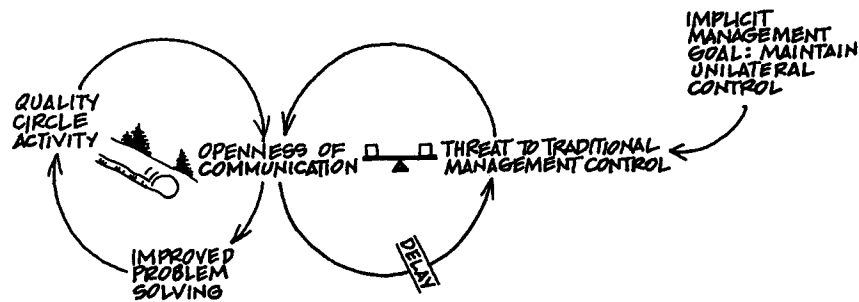
Limits to growth structures often frustrate organizational changes that seem to be gaining ground at first, then run out of steam. For example, many initial attempts to establish "quality circles" fail ultimately in U.S. firms, despite making some initial progress. Quality circle activity begins to lead to more open communication and collaborative problem solving, which builds enthusiasm for more quality circle activity. But the more successful the quality circles become, the more threatening they become to the traditional distribution of political power in the firm. Union leaders begin to fear that the new openness will break down traditional adversarial relations between workers and management, thereby undermining union leaders' ability to influence workers. They begin to undermine the quality



circle activity by playing on workers' apprehensions about being manipulated and "snowed" by managers: "Be careful; if you keep coming up with cost saving improvements on the production line, your job will be the next to go."⁵

Managers, on the other hand, are often unprepared to share control with workers whom they have mistrusted in the past. They end

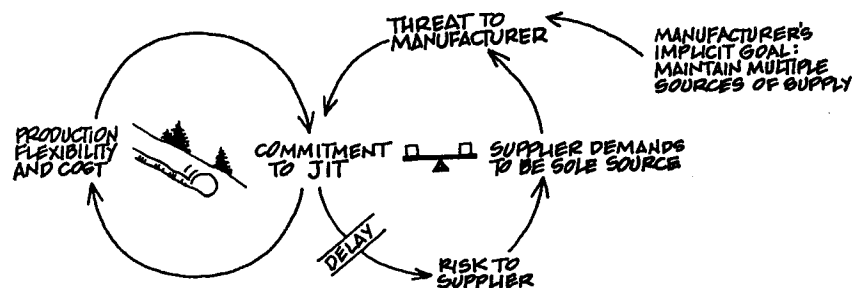
up participating in quality circle activities but only going through the motions. They graciously acknowledge workers' suggestions but fail to implement them.



Rather than achieving steady acceptance, quality circle activity rises for a time—then plateaus or declines. Often, the response of the leader to disappointing results from the quality circle simply feeds fuel to the flame. The more aggressively the leader promotes the quality circle, the more people feel threatened and the more stonewalling takes place.

You see similar dynamics with “Just in Time” inventory systems, which depend on new relationships of trust between suppliers and manufacturers. Initial improvements in production flexibility and cost are not sustained. Often, the supplier in a JIT system eventually demands to be a sole source to offset the risk in supplying the manufacturer overnight. This threatens the manufacturer, who is used to placing multiple orders with different suppliers to guarantee control of parts supply. The manufacturer’s commitment to JIT then wavers.

The supplier’s commitment to JIT can likewise waver, once he realizes that the manufacturer demands to be his prime customer. Used to having multiple customers, the supplier can’t help but wonder whether the manufacturer will go on ordering parts from multiple



suppliers and then suddenly cancel orders. The more aggressively you try to change the process, the more aware both sides are of their risks. Thus, the more likely they are to hedge those risks by sticking to traditional practices of multiple suppliers and multiple customers, thereby undermining the trust a JIT system requires.⁶

HOW TO ACHIEVE LEVERAGE

Typically, most people react to limits to growth situations by trying to push hard: if you can’t break your bad habit, become more diligent in monitoring your own behavior; if your relationship is having problems, spend more time together or work harder to make the relationship work; if staff are unhappy, keep promoting junior staff to make them happy; if the flow of new products is slowing down, start more new product initiatives to offset the problems with the ones that are bogged down; or advocate quality circle more strongly.

It’s an understandable response. In the early stages when you can see improvement, you want to do more of the same—after all, it’s working so well. When the rate of improvement slows down, you want to compensate by striving even harder. Unfortunately, the more vigorously you push the familiar levers, the more strongly the balancing process resists, and the more futile your efforts become. Sometimes, people just give up their original goal—lowering their goal to stop criticizing others, or giving up on their relationship, or giving up on quality circle or JIT improvements.

But there is another way to deal with limits to growth situations. In each of them, leverage lies in the balancing loop—not the reinforcing loop. To change the behavior of the system, you must identify and change the limiting factor. This may require actions you may not yet have considered, choices you never noticed, or difficult changes in rewards and norms. To reach your desired weight may be impossible by dieting alone—you need to speed up the body’s metabolic rate, which may require aerobic exercise. Sustaining loving relationships requires giving up the ideal of the “perfect partner”—the implicit goal that limits the continued improvement of any relationship. Maintaining morale and productivity as a professional firm matures requires a different set of norms and rewards that salute work well done, not a person’s place in the hierarchy. It may also require distributing challenging work assignments equitably and not to “partners only.” Maintaining effective product development pro-

cesses as a firm grows requires dealing with the management burden brought on by an increasingly complex research and engineering organization. Some firms do this by decentralizing, some by bringing in professionals skilled in managing creative engineers (which is not easy), and some by management development for engineers who want to manage.

Not surprisingly, where quality circles have succeeded they have been part of a broader change in managerial-employee relationships. In particular, successes have involved genuine efforts to redistribute control, thereby dealing with the union and management concerns over loss of control. Likewise, successful Just in Time systems have taken root as part of "Total Quality" programs that focus on meeting customer needs, stabilizing production rates, and sharing benefits with valued suppliers. These changes were necessary to overcome the distrust that lay behind traditional goals of maintaining multiple sources of supply and multiple customers. In successful cases, managers had to ignore temptations to think that quality circle failures were due to individual troublemakers; or that JIT problems came from a recalcitrant supplier.⁷

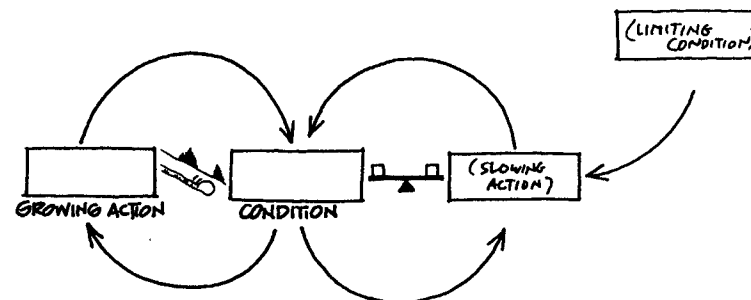
But there is another lesson from the limits to growth structure as well. There will always be more limiting processes. When one source of limitation is removed or made weaker, growth returns until a new source of limitation is encountered. In some settings, like the growth of a biological population, the fundamental lesson is that growth eventually *will* stop. Efforts to extend the growth by removing limits can actually be counterproductive, forestalling the eventual day of reckoning, which given the pace of change that reinforcing processes can create (remember the French lily pads) may be sooner than we think.

HOW TO CREATE YOUR OWN "LIMITS TO GROWTH" STORY

The best way to understand an archetype is to diagram your own version of it. The more actively you work with the archetypes, the better you will become at recognizing them and finding leverage.

Most people have many limits to growth structures in their lives. The easiest way to recognize them is through the pattern

of behavior. Is there a situation in which things get better and better at first, and then mysteriously stop improving? Once you have such a situation in mind, see if you can identify the appropriate elements of the reinforcing and balancing loops:⁸



First, identify the reinforcing process—what is getting better and what is the action of activity leading to improvement? (There may be other elements of the reinforcing process, but there are always at least a condition which is improving, and an action leading to the improvement.) It might, for instance, be the story of an organizational improvement: an equal opportunity hiring program, for example. The "growing action" is the equal opportunity program itself; and the condition is the percentage of women and minorities on staff. For example, as the percentage of women in management increases, confidence in or commitment to the program increases, leading to still further increase in women in management.

There is, however, bound to be a limiting factor, typically an implicit goal, or norm, or a limiting resource. The second step is to identify the limiting factor and the balancing process it creates. What "slowing action" or resisting force starts to come into play to keep the condition from continually improving? In this case, some managers might have an idea in their minds of how many women or minority executives are "too much." That unspoken number is the limiting factor; as soon as that threshold is approached, the slowing action—manager's resistance—will kick in. Not only will they resist more equal opportunity hires, but they may make life exceptionally difficult for the new people already in place.

Once you've mapped out your situation, look for the leverage. It won't involve pushing harder; that will just make the

resistance stronger. More likely, it will require weakening or removing the limiting condition.

For the best results, test your limits to growth story in real life. Talk to others about your perception. Test your ideas about leverage in small real-life experiments first. For example, you might seek out one person whom you perceive as holding an implicit quota for "enough women," but who is also approachable, and ask him. (See the reflection and inquiry skills section in Chapter 10, "Mental Models," for how to do this effectively.)

ARCHETYPE 2: SHIFTING THE BURDEN

DEFINITION

An underlying problem generates symptoms that demand attention. But the underlying problem is difficult for people to address, either because it is obscure or costly to confront. So people "shift the burden" of their problem to other solutions—well-intentioned, easy fixes which seem extremely efficient. Unfortunately, the easier "solutions" only ameliorate the symptoms; they leave the underlying problem unaltered. The underlying problem grows worse, unnoticed because the symptoms apparently clear up, and the system loses whatever abilities it had to solve the underlying problem.

MANAGEMENT PRINCIPLE

Beware the symptomatic solution. Solutions that address only the symptoms of a problem, not fundamental causes, tend to have short-term benefits at best. In the long term, the problem resurfaces and there is increased pressure for symptomatic response. Meanwhile, the capability for fundamental solutions can atrophy.

WHERE IT IS FOUND

Shifting the burden structures are common in our personal as well as organizational lives. They come into play when there are obvious "symptoms of problems" that cry out for attention, and quick and ready "fixes" that can make these symptoms go away, at least for a while.

Consider the problem of stress that comes when our personal workload increases beyond our capabilities to deal with it effectively. We juggle work, family, and community in a never-ending blur of activity. If the workload increases beyond our capacity (which tends to happen for us all) the only fundamental solution is to limit the workload. This can be tough—it may mean passing up a promotion that will entail more travel. Or it may mean declining a position on the local school board. It means prioritizing and making choices. Instead, people are often tempted to juggle faster, relieving the stress with alcohol, drugs, or a more benign form of "stress reduction" (such as exercise or meditation). But, of course, drinking doesn't really solve the problem of overwork—it only masks the problem by temporarily relieving the stress. The problem comes back, and so does the need for drinking. Insidiously, the shifting the burden structure, if not interrupted, generates forces that are all-too-familiar in contemporary society. These are the dynamics of avoidance, the result of which is increasing dependency, and ultimately addiction.

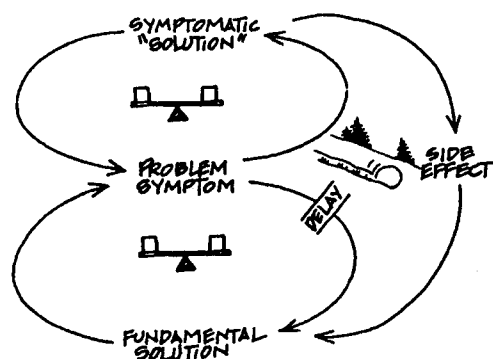
A shifting the burden structure lurks behind many "solutions" which seem to work effectively, but nonetheless leave you with an uneasy feeling that they haven't quite taken care of the problem. Managers may believe in delegating work to subordinates but still rely too much on their own ability to step in and "handle things" at the first sign of difficulty, so that the subordinate never gets the necessary experience to do the job. Businesses losing market share to foreign competitors may seek tariff protection and find themselves unable to operate without it. A Third World nation, unable to face difficult choices in limiting government expenditures in line with its tax revenues, finds itself generating deficits that are "financed" through printing money and inflation. Over time, inflation becomes a way of life, more and more government assistance is needed, and chronic deficits become accepted as inevitable. Shifting the burden structures also include food relief programs that "save" farmers

from having to grow crops, and pesticides that temporarily remove vermin, but also eliminate natural controls, making it easier for the pest to surge back in the future.

STRUCTURE

The shifting the burden is composed of two balancing (stabilizing) processes. Both are trying to adjust or correct the same problem symptom. The top circle represents the symptomatic intervention; the "quick fix." It solves the problem symptom quickly, but only temporarily. The bottom circle has a delay. It represents a more fundamental response to the problem, one whose effects take longer to become evident. However, the fundamental solution works far more effectively—it may be the only enduring way to deal with the problem.

Often (but not always), in shifting the burden structures there is also an additional reinforcing (amplifying) process created by "side effects" of the symptomatic solution. When this happens, the side effects often make it even more difficult to invoke the fundamental solution—for example, the side effects of drugs administered to correct a health problem. If the problem was caused originally by an unhealthy lifestyle (smoking, drinking, poor eating habits, lack of exercise), then the only fundamental solution lies in a change in lifestyle. The drugs (the symptomatic solution) make the symptom better, and remove pressure to make difficult personal changes. But they also have side effects that lead to still more health problems, making it even more difficult to develop a healthy lifestyle.



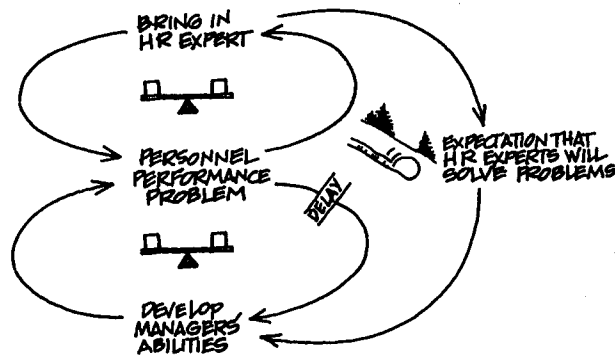
UNDERSTANDING AND USING THE STRUCTURE

The shifting the burden structure explains a wide range of behaviors where well-intended "solutions" actually make matters worse over the long term. Opting for "symptomatic solutions" is enticing. Apparent improvement is achieved. Pressures, either external or internal, to "do something" about a vexing problem are relieved. But easing a problem symptom also reduces any perceived need to find more fundamental solutions. Meanwhile, the underlying problem remains unaddressed and may worsen, and the side effects of the symptomatic solution make it still harder to apply the fundamental solution. Over time, people rely more and more on the symptomatic solution, which is becoming increasingly the only solution. Without anyone making a conscious decision, people have "shifted the burden" to increasing reliance on symptomatic solutions.

Interactions between corporate staff and line managers are fraught with shifting the burden structures. For example, busy managers are often tempted to bring in human resource specialists to sort out personnel problems. The HR expert may solve the problem, but the manager's ability to solve other related problems has not improved. Eventually, other personnel issues will arise and the manager will be just as dependent on the HR expert as before. The very fact that the outside expert was used successfully before makes it even easier to turn to the expert again. "We had a new batch of difficulties, so we brought in the personnel specialists again. They are getting to know our people and our situation well, so they are very efficient." Over time, HR experts become increasingly in demand, staff costs soar, and managers' development (and respect) declines.

Shifting the burden structures often underlie unintended drifts in strategic direction and erosion in competitive position. A recent group of executives in a high-tech firm were deeply concerned that their company was "losing its edge" by not bringing dramatic new products to market. It was less risky to improve existing products. However, they feared that a culture of "incrementalism" rather than "breakthrough" was being fostered. The safer, more predictable, easier-to-plan-for-and-organize processes of improvement innovation were becoming so entrenched that the managers wondered if the company was still capable of basic innovation.

As I listened, I recalled a similar strategic drift described by managers of a leading consumer goods producer, which had become

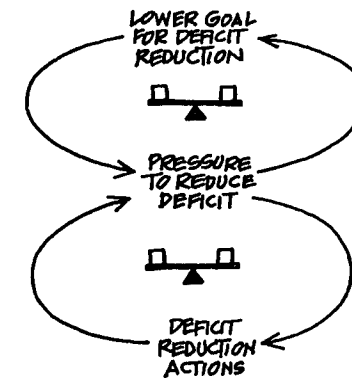


more and more dependent on advertising versus new product development. Whenever business sagged for one of its many products, the tendency was to run a new advertising promotion. The advertising culture had become so entrenched, that the last three CEOs were all ex-advertising executives, who frequently wrote ad copy personally. Meanwhile, the flow of major new products had dwindled to a trickle under their leadership.

A special case of shifting the burden, which recurs with alarming frequency, is "eroding goals." Whenever there is a gap between our goals and our current situation there are two sets of pressures: to improve the situation and to lower our goals. How these pressures are dealt with is central to the discipline of personal mastery, as will be shown in Chapter 9.

Societies collude in eroding goals all the time: witness the lowered standards for "full employment" in the United States. The federal full-employment target slid from 4 percent in the 1960s to 6 to 7 percent by the early 1980s. (In other words, we were willing to tolerate 50 to 75 percent more unemployment as "natural.") Likewise, 3 to 4 percent inflation was considered severe in the early 1960s, but a victory for anti-inflation policies by the early 1980s. In 1984, the U.S. Congress passed the "Gramm-Rudman-Hollings" deficit reduction bill. The original bill called for reaching a balanced budget by 1991. Shortly thereafter, it was clear that the budget reduction was not proceeding on pace, so the target was shifted to 1993. This eroding goal structure can be diagrammed as follows:

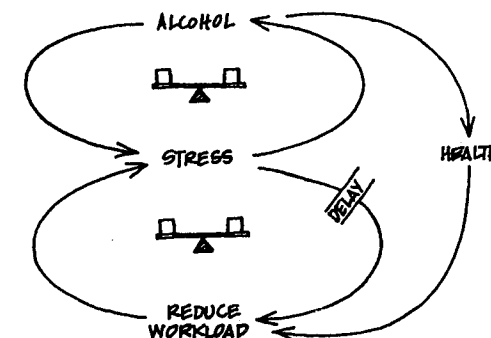
As we will see in the next two chapters, similar eroding goal dynamics play out in organizations around goals for quality, goals for innovation, goals for personal growth of employees, and goals for organizational improvement. In effect, we all can become "addicted" to lowering our goals. Or, as a bumper sticker I saw recently said, "If all else fails, lower your goals."



PATTERN OF BEHAVIOR

Regardless of the choice of symptomatic solution, it works—in a way. Drinking, for example, lifts some tension, at least for a while. It relieves the problem symptom. If it didn't, people wouldn't drink. But it also gives the person the feeling of having "solved the problem," thereby diverting attention from the fundamental problem—controlling the workload. Failing to take a stand may well cause the workload to gradually increase further, since most of us are continually besieged by more demands on our time than we can possibly respond to. Over time, the workload continues to build, the stress returns, and the pressure to drink increases.

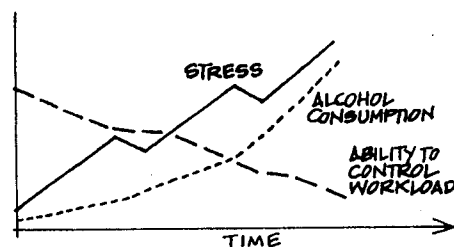
What makes the shifting the burden structure insidious is the subtle reinforcing cycle it fosters, increasing dependence on the symptomatic solution. Alcoholics eventually find themselves physically



addicted. Their health deteriorates. As their self-confidence and judgment atrophy, they are less and less able to solve their original workload problem. To trace out the causes of the reinforcing cycle, just imagine you are moving around the "figure eight" created by the two interacting feedback processes: stress builds, which leads to more alcohol, which relieves stress, which leads to less perceived need to adjust workload, which leads to more workload, which leads to more stress.

These are the generic dynamics of addiction. In fact, almost all forms of addiction have shifting the burden structures underlying them. All involve opting for symptomatic solutions, the gradual atrophy of the ability to focus on fundamental solutions, and the increasing reliance on symptomatic solutions. By this definition, organizations and entire societies are subject to addiction as much as are individuals.

Shifting the burden structures tend to produce periodic crises, when the symptoms of stress surface. The crises are usually resolved with more of the symptomatic solution, causing the symptoms to temporarily improve. What is often less evident is a slow, long-term drift to lower levels of health: financial health for the corporation or physical health for the individual. The problem symptom grows worse and worse. The longer the deterioration goes unnoticed, or the longer people wait to confront the fundamental causes, the more difficult it can be to reverse the situation. While the fundamental response loses power, the symptomatic response grows stronger and stronger.



HOW TO ACHIEVE LEVERAGE

Dealing effectively with shifting the burden structures requires a combination of strengthening the fundamental response and weakening the symptomatic response. The character of organizations is often revealed in their ability (or inability) to face shifting-the-burden structure. Strengthening fundamental responses almost always re-

quires a long-term orientation and a sense of shared vision. Without a vision of succeeding through new product innovation, pressures to divert investment into short-term problem-solving will be overwhelming. Without a vision of skilled "people-oriented" managers, the time and energy to develop those skills will not be forthcoming. Without a shared vision of the role government can and should play, and for which people will provide tax revenues to support, there can be no long-term solution to balance government spending and income.

Weakening the symptomatic response requires willingness to tell the truth about palliatives and "looking good" solutions. Managers might acknowledge, for example, that heavy advertising "steals" market share from competitors, but doesn't expand the market in any significant way. And politicians must admit that the resistance they face to raising taxes comes from the perception that the government is corrupt. Until they deal credibly with perceived corruption, they will neither be able to raise taxes nor reduce spending.

A splendid illustration of the principles of leverage in shifting the burden structures can be found in the approach of some of the most effective alcoholism and drug treatment programs. They insist that people face their addiction on one hand, while offering support groups and training to help them rehabilitate on the other. For example, the highly successful Alcoholics Anonymous creates powerful peer support to help people revitalize their ability to face whatever problems were driving them to drink, with a sense of vision that those problems can be solved. They also force individuals to acknowledge that "I am addicted to alcohol and will be for my entire life," so that the symptomatic solution can no longer function in secret.⁹

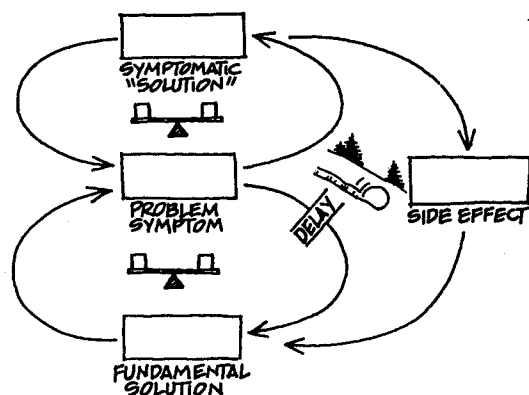
In the business example of managers becoming more and more dependent on HR consultants, the managers' own abilities must be developed more strongly, even though that may mean a larger initial investment. The HR experts must become coaches and mentors, not problem solvers, helping managers develop their own personal skills.

Sometimes symptomatic solutions *are* needed—for example, in treating a person suffering from a disease created by smoking or drinking. But symptomatic solutions must always be acknowledged as such, *and* combined with strategies for rehabilitating the capacity for fundamental solution, if the shifting the burden dynamic is to be interrupted. If symptomatic solutions are employed *as if* they are fundamental solutions, the search for fundamental solution stops and shifting the burden sets in.

HOW TO CREATE YOUR OWN "SHIFTING THE BURDEN" STORY

There are three clues to the presence of a shifting the burden structure. First, there's a problem that gets gradually worse over the long term—although every so often it seems to get better for a while. Second, the overall health of the system gradually worsens. Third, there's a growing feeling of helplessness. People start out feeling euphoric—they've solved their problem!—but end up feeling as if they are victims.

In particular, look for situations of dependency, in which you have a sense that the real issues, the deeper issues, are never quite dealt with effectively. Again, once you have such a situation in mind, see if you can identify the appropriate elements of the reinforcing and balancing loops.



Start by identifying the "problem symptom." This will be the "squeaky wheel" that demands attention—such as stress, subordinates' inability to solve pressing problems, falling market share. Then identify a "fundamental solution" (there may be more than one)—a course of action that would, you believe, lead to enduring improvement. Then, identify one or several "symptomatic solutions" that might ameliorate symptoms for a time.

In fact, "fundamental solutions" and "symptomatic solutions" are relative terms, and what is most valuable is recog-

nizing the multiple ways in which a problem can be addressed, from the most fundamental to the most superficial.

Then identify the possible negative "side effects" of the symptomatic solution.

The primary insights in shifting the burden will come from (1) distinguishing different types of solutions; (2) seeing how reliance on symptomatic solutions can reinforce further reliance. The leverage will always involve strengthening the bottom circle, and/or weakening the top circle. Just as with limits to growth, it's best to test your conclusions here with small actions—and to give the tests time to come to fruition. In particular, strengthening an atrophied ability will most likely take a long period of time.

Limits to growth and shifting the burden are but two of the basic systems archetypes. Several others are introduced in the following chapters. (Appendix 2 summarizes all the archetypes used in this book.) As the archetypes are mastered, they become combined into more elaborate systemic descriptions. The basic "sentences" become parts of paragraphs. The simple stories become integrated into more involved stories, with multiple themes, many characters, and more complex plots.

But the archetypes start the process of mastering systems thinking. By using the archetypes, we start to *see* more and more of the circles of causality that surround our daily activity. Over time, this leads naturally to thinking and acting more systemically.

To see how the archetypes get put into practice, the next chapter examines one way in which limits to growth and shifting the burden have proven useful—in understanding the ways a company with great growth potential can fail to realize that potential.