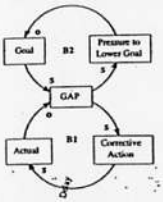
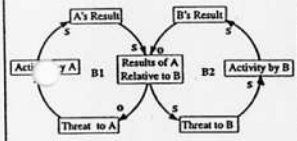
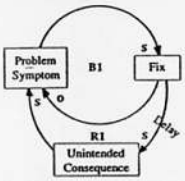
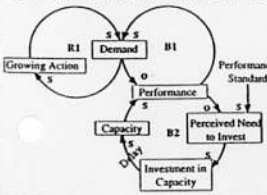
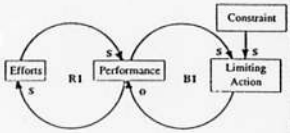
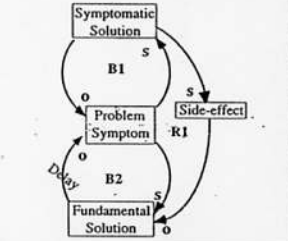
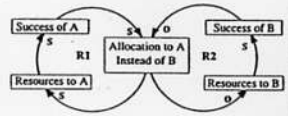
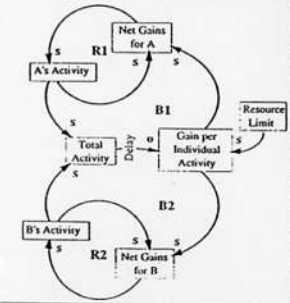
Systems Archetypes at a Glance

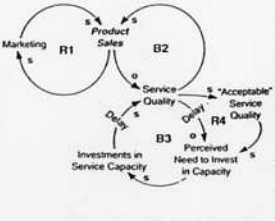
Archetype	Description	Guidelines
Drifting Goals 	In a "Drifting Goals" archetype, a gap between the goal and current reality can be resolved by taking corrective action (B1) or lowering the goal (B2). The critical difference is that lowering the goal immediately closes the gap, whereas corrective actions usually take time. (See *Toolbox*, October 1990).	• Drifting performance figures are usually indicators that the "Drifting Goals" archetype is at work and that real corrective actions are not being taken. • A critical aspect of avoiding a potential "Drifting Goals" scenario is to determine what drives the setting of the goals. • Goals located outside the system will be less susceptible to drifting goals pressures.
Escalation 	In the "Escalation" archetype, one party (A) takes actions that are perceived by the other as a threat. The other party (B) responds in a similar manner, increasing the threat to A and resulting in *more* threatening actions by A. The reinforcing loop is traced out by following the outline of the figure-8 produced by the two balancing loops. (See *Toolbox*, November 1991).	To break an escalation structure, ask the following questions: • What is the relative measure that pits one party against the other and can you change it? • What are the significant delays in the system that may distort the true nature of the threat? • What are the deep-rooted assumptions that lie beneath the actions taken in response to the threat?
Fixes that Fail 	In a "Fixes that Fail" situation, a problem symptom cries out for resolution. A solution is quickly implemented that alleviates the symptom (B1), but the unintended consequences of the "fix" exacerbate the problem (R1). Over time (right), the problem symptom returns to its previous level or becomes worse. (See *Toolbox*, November 1990).	• Breaking a "Fixes that Fail" cycle usually requires acknowledging that the fix is merely alleviating a symptom, and making a commitment to solve the real problem now. • A two-pronged attack of applying the fix and planning out the fundamental solution will help ensure that you don't get caught in a perpetual cycle of solving yesterdays "solutions."
Growth and Underinvestment 	In a "Growth and Underinvestment" archetype, growth approaches a limit that can be eliminated or pushed into the future if capacity investments are made. Instead, performance standards are lowered to justify underinvestment, leading to lower performance which further justifies underinvestment. (See *Toolbox*, June/July 1992).	• Dig into the assumptions which drive capacity investment decisions. If past performance dominates as a consideration, try to balance that perspective with a fresh look at demand and the factors that drive its growth. • If there is a potential for growth, build capacity in anticipation of future demand.

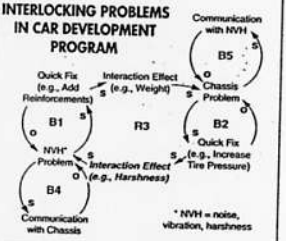
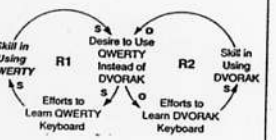
Archetype	Description	Guidelines
Limits to Success 	In a "Limits to Success" scenario, continued efforts initially lead to improved performance. Over time, however, the system encounters a limit which causes the performance to slow down or even decline (B1), even as efforts continue to rise. (See *Toolbox*, December 1990/January 1991).	• The archetype is most helpful when it is used well in advance of any problems, to see how the cumulative effects of continued success might lead to future problems. • Use the archetype to explore questions such as "What kinds of pressures are building up in the organization as a result of the growth?" • Look for ways to relieve pressures or remove limits *before* an organizational gasket blows.
Shifting the Burden/Addiction 	In a "Shifting the Burden," a problem is "solved" by applying a symptomatic solution (B1) which diverts attention away from more fundamental solutions (R1). (See *Toolbox*, September 1990). In an "Addiction" structure, a "Shifting the Burden" degrades into an addictive pattern in which the side-effect gets so entrenched that it overwhelms the original problem symptom. (See *Toolbox*, April 1992).	• Problem symptoms are usually easier to recognize than the other elements of the structure. • If the side-effect has become the problem, you may be dealing with an "Addiction" structure. • Whether a solution is "symptomatic" or "fundamental" often depends on one's perspective. Explore the problem from differing perspectives in order to come to a more comprehensive understanding of what the fundamental solution may be.
Success to the Successful 	In a "Success to the Successful" archetype, if one person or group (A) is given more resources, it has a higher likelihood of succeeding than B (assuming they are equally capable). The initial success justifies devoting more resources to A than B (R1). As B gets less resources, its success diminishes, further justifying more resource allocations to A (R2). (See *Toolbox*, March 1992).	• Look for reasons why the system was set up to create just one "winner." • Chop off one half of the archetype by focusing efforts and resources on one group, rather than creating a "winner-take-all" competition. • Find ways to make teams collaborators rather than competitors. • Identify goals or objectives that define success at a level higher than the individual players A and B.
Tragedy of the Commons 	In a "Tragedy of the Commons" structure, each person pursues actions which are individually beneficial (R1 and R2). If the amount of activity grows too large for the system to support, however, the "commons" becomes overloaded and everyone experiences diminishing benefits (B1 and B2). (See *Toolbox*, August 1991).	• Effective solutions for a "Tragedy of the Commons" scenario never lie at the individual level. • Ask questions such as: "What are the incentives for individuals to persist in their actions?" "Can the long-term collective loss be made more real and immediate to the individual actors?" • Find ways to reconcile short-term individual rewards with long-term cumulative consequences. A governing body that is chartered with the sustainability of the resource limit can help.

The archetypes are drawn from *The Fifth Discipline* by Peter M. Senge (available from Pegasus Communications).

Toolbox

A Pocket Guide to Using the Archetypes

Archetype/Application	Seven Steps	Illustration
DRIFTING GOALS Application: Stay Focused on Vision Various pressures can often take our attention away from what we are trying to achieve. The "Drifting Goals" archetype helps explain why an organization is not able to achieve its desired goals. Used as a diagnostic tool, it can target drifting performance areas and help organizations attain their visions (see p. 10).	**1.** Identify drifting performance measure. **2.** Look for goals that conflict with the stated goal. **3.** Identify standard procedures for closing the gap. Are they inadvertently contributing to the goal slippage? **4.** Examine the past history of the goal. Have the goals themselves been lowered over time? **5.** Anchor the goal to an external reference. **6.** Clarify a compelling vision that will involve everyone. **7.** Create a clear transition plan. Explore what it will take to achieve the vision, and establish a realistic timeline.	**DRIFTING QUALITY STANDARDS** 
ESCALATION Application: Competition One of the reasons we get caught in escalation dynamics may stem from our view of competition. The "Escalation" archetype suggests that cutthroat competition serves no one well in the long run. The archetype provides a way to identify escalation structures at work and ows how to break out of them or avoid them altogether (see p. 12).	**1.** Identify the competitive variable. Is a single variable the basis of differentiation between competitors? **2.** Name the key players caught in the dynamic. **3.** Map what is being threatened. Are your company's actions addressing the real threat, or simply preserving core values that may no longer be relevant? **4.** Reevaluate competitive measure. Can the variable that is the foundation of the game (price, quality, etc.) be shifted? **5.** Quantify significant delays that may be distorting the nature of the threat. **6.** Identify a larger goal encompassing both parties' goals. **7.** Avoid future "Escalation" traps by creating a system of collaborative competition.	**ESCALATING FREQUENT FLYER PROMOTIONS** 
FIXES THAT FAIL Application: Problem-Solving Almost any decision carries long-term and short-term consequences, and the two are often diametrically opposed. The "Fixes That Fail" archetype can help you get off the problem-solving treadmill by identifying fixes that may be doing more harm than good (see p. 14).	**1.** Identify problem symptom. **2.** Map current interventions and how they were expected to rectify the problem. **3.** Map unintended consequences of the interventions. **4.** Identify fundamental causes of the problem symptoms. **5.** Find connections between both sets of loops. Are the fixes and the fundamental causes linked? **6.** Identify high-leverage interventions. Add or break links in the diagram to create structural interventions. **7.** Map potential side-effects for each intervention in order to be prepared for them (or to avoid them altogether).	**FIXES FOR FALLING SALES** 
GROWTH AND UNDERINVESTMENT Application: Capital Planning If demand outstrips capacity, performance can suffer and hurt demand. If this dynamic is not recognized, the decrease in demand can then be used as a reason *not* to invest in the needed capacity. "Growth and Underinvestment" can be used to ensure that vestment decisions are viewed from a fresh perspective, rather than relying on past decisions (see p. 16).	**1.** Identify interlocked patterns of behavior between capacity investments and performance measures. **2.** Identify delays between when performance falls and when additional capacity comes on-line—particularly perceptual delays regarding the need to invest. **3.** Quantify and minimize acquisition delays. **4.** Identify related capacity shortfalls. Are other parts of the system too sluggish to benefit from added capacity? **5.** Fix investment decisions on external signals, not on standards derived from past performance. **6.** Avoid self-fulfilling prophecies. Challenge the assumptions that drive capacity investment decisions. **7.** Search for diverse investment inputs. Seek new perspectives on products, services, and customer requirements.	**UNDERINVESTING IN SERVICE CAPACITY** 

Archetype/Application	Seven Steps	Illustration
LIMITS TO SUCCESS Application: Planning If we don't plan for limits, we are planning for failure. The "Limits to Success" archetype shows that being successful can be just as dangerous to long-term health as being unsuccessful. By mapping out the growth engines and potential danger points in advance, we can anticipate future problems and eliminate them before they become a threat (see p. 18).	**1.** Identify the growth engines. **2.** Determine doubling time of those processes. **3.** Identify potential limits and balancing loop(s)—physical capacity, information systems, personnel, management expertise, attitudes/mental models. **4.** Determine change required to deal effectively with the limit(s) identified. **5.** Assess time needed to change. Is there a discrepancy between the doubling time and the changes that need to be made to support that growth? **6.** Balance the growth. What strategies can be used to balance the growth engine with the time frame of the investments that must be made to sustain it? **7.** Reevaluate the growth strategy. Continually challenge assumptions in context of the broader company.	**TECHNICAL SUPPORT CAPACITY LIMITS** 
SHIFTING THE BURDEN Application: Break Organizational Gridlock Organizational gridlock can be caused by interlocking "Shifting the Burden" structures, as one function's "solution" creates problems in another area. The archetype provides a starting point for breaking gridlock by identifying chains of problem symptoms and solutions that form walls between functions, departments, or divisions (see p. 20).	**1.** Identify the original problem symptom(s). **2.** Map all "quick fixes" that appear to be keeping the problem under control. **3.** Identify impact on others. What are the impacts of those "solutions" on other players in the company? **4.** Identify fundamental solutions. Look at the situation from both perspectives to find a systemic solution. **5.** Map side-effects of quick fixes that may be undermining the usability of the fundamental solution. **6.** Find interconnections to fundamental loops. Find the links between the interaction effects and the fundamental solution that may be creating gridlock. **7.** Identify high-leverage actions from both perspectives.	**INTERLOCKING PROBLEMS IN CAR DEVELOPMENT PROGRAM** 
SUCCESS TO THE SUCCESSFUL Application: Avoid Competency Traps The "Success to the Successful" archetype suggests that success or failure may be due more to initial conditions than intrinsic merits. It can help organizations challenge their success loops by "unlearning" what they are already good at in order to explore new approaches and alternatives (see p. 22).	**1.** Investigate historical origins of competencies. **2.** Identify potential competency traps. **3.** Evaluate current measurement systems—are they set up to favor current systems over other alternatives? **4.** Map internal view of market success. What are the operating assumptions around success in the market? **5.** Obtain external views of market success. Ask "outsiders" for alternative strategies. **6.** Assess effects on the innovative spirit. Is the current system excluding or limiting the spirit of experimentation that will lead to new alternatives? **7.** Continually scan for gaps and areas for improvement.	**SUCCESS OF THE "QWERTY" KEYBOARD** 
TRAGEDY OF THE COMMONS Application: Resource Allocation In a "Tragedy of the Commons" situation, the complex interaction of individual actions produces an undesirable collective result, such as the depletion of a common resource. The archetype can be used to help connect the long-term effects of individual actions to the collective outcome, and to develop measures for managing the common resource more effectively (see p. 24).	**1.** Identify the "commons." What is the common resource that is being shared? **2.** Determine incentives. What are the reinforcing processes that are driving individual use of the resource? **3.** Determine time frame for reaping benefits. **4.** Determine time frame for experiencing cumulative effects of the collective action. **5.** Make the long-term effects more present. How can the long-term loss or degradation of the commons be more real and present to the individual users? **6.** Reevaluate the nature of the commons. Are there other resources or alternatives that can be used to remove the constraint upon the commons? **7.** Limit access to resources. Determine a central focal point—a shared vision, measurement system, or final arbiter—that allocates the resource based on the needs of the whole system.	**OVERGRAZING THE ALTERNATOR**