Week 1 - Lecture 1-3 - Design, Innovation, Systems Thinking, and Data Analytics

The amount of change that has been and is taking place in the health care system and the issues of cost, quality, and access, demand that we begin to think about how we meet the challenges of the healthcare needs of the population in new and different ways. One does not have to look far to realize that the healthcare delivery and financing systems are disorganized, fragmented, uncoordinated and leave a great deal to be desired.

The world we have made as a result of the level of thinking we have done thus far, creates problems we cannot solve at the same level at which we created them.

*Albert Einstein*

In other words, we need to shift our focus and thinking to see the issues anew and to come up with new ways to address them. According to the world of politics, all politics are local. In healthcare, all health care is local. Practically speaking, that means the issues facing the delivery of health care can and need to be solved where services are provided. In some instances, local may mean at the national level, especially, if it is national health policy that is being debated and decided.

The evolution of Primary Medical Homes, Accountable Care Organizations, Population Health, Pay for Performance, Value-Based Care, Big Data, and the American Recovery and Reinvestment Act are driving unprecedented change. To cope with this change and to move proactively into the future we need to change the way we look at things, so the things we look at change.

To that end, the healthcare leaders of today and tomorrow are going to need to understand and embrace design, innovation, systems thinking, and data analytics. This is a never-ending journey with no final destination. In many ways, the journey is the destination. That is not to say, that there will not be accomplishments and breakthroughs at all levels of the delivery system. There will be. However, it is to say, that meeting the healthcare needs of the population of the United States, and the planet, will bring forth challenges and opportunities that are not on anyone’s radar screen.

This is where the disciplines of design, innovation, systems thinking and data analytics, enter the picture. During the course, students will be introduced to these disciplines and be asked to begin applying them to real-world issues facing healthcare. Throughout the master’s program, we will build upon these disciplines, to help prepare students for the challenges of today and tomorrow.

Design and Innovative Thinking

We will explore and use the work from the d.school, Institute of Design at Stanford University, throughout the semester. This includes but is not limited to the following topics:

* The Heart of Innovation
* From Design Thinking to Creative Confidence
* From Fear to Courage
* From Blank Page to Insight
* From Planning to Action
* From Duty to Passion
* Creatively Confident Groups
* Creative Confidence to Go
* Embrace Creative Confidence

Systems Thinking

The work of [Peter Senge's Fifth Discipline](https://champlain.instructure.com/courses/1414562/files/135509635/download?wrap=1) will give us insights into Systems Thinking and help us begin to see circles of influence within life and organizations and not simply linear cause and effect relationships. The following aspects of systems thinking will be explored over the next eight weeks.

* Systems Thinking
* Mental Models
* Personal Mastery
* Shared Vision
* Team Learning

***Systems Thinking***

Systems thinking helps us see patterns and learn to reinforce or change them effectively. Unfortunately, we usually focus on isolated parts of a system instead and then wonder why our efforts at solving problems or perpetrating success fail. Systems thinking also fuses the other four disciplines into a coherent whole that keeps them from turning into fads or gimmicks, which is why it is the all-important “fifth” discipline.

Paradoxes crop up regularly in life and in organizational life. The time of your greatest growth is the best moment to plan for harder times. The greatest floods represent the time when you must be most careful about conserving water. The policies which gain the most from your position may ultimately drain your resources most quickly. The harder you strive for what you want, the more you may undermine your own chances of achieving it. System principles like these are meaningful not so much in themselves, but because they represent a more effective way of thinking and acting. Incorporating them into your behavior requires what David McCamus, former chairman and CEO of Xerox Canada, calls “peripheral vision”: the ability to pay attention to the world as if through a wide-angle, not a telephoto lens, so you can see how your actions interrelate with other areas of activity.

The 11 laws of systems are listed below. In-depth explanations for the laws of systems, can be found in [Attachment I](https://champlain.instructure.com/courses/1414562/files/135509635/download?wrap=1).

1. Today’s problems come from yesterday’s solutions.
2. The harder you push, the harder the system pushes back.
3. Behavior grows better before it grows worse.
4. The easy way out usually leads back in.
5. The cure can be worse than the disease.
6. Faster is slower.
7. Cause and effect are not closely related in time and space.
8. Small changes can produce big results, but the areas of highest leverage are often the least obvious.
9. You can have your cake and eat it too, but not at once.
10. Dividing an elephant in half does not produce two small elephants.
11. There is no blame.

In summary, systems’ thinking is:

* Seeing circles of influence, not just straight lines
* Understanding how underlying structures reoccur again and again and are not just one-time events
* Seeing the whole rather than the parts and that this whole is greater than the sum of the parts
* Seeing people as empowered and active creators of their reality, rather than helpless and reactive victims
* Seeing interrelationships and patterns instead of thinking in a linear cause and effect way
* Seeing how actions reinforce and balance one another rather than seeing than just seeing events and details
* Seeing that underlying structures influence individuals, teams and organizational performance
* Knowing that a system develops to the extent that it supports and is in harmony with the larger system of which it is a part
* Using leverage points for change which:
	+ Result in qualitative self-reinforcing shift in performance
	+ Are long-term
	+ Are often contrary to existing mental models
	+ Are not necessarily connected to the symptoms in space or time

Systems thinking helps us to understand why conventional solutions are failing and where higher leverage actions may be found.

*Peter M. Senge*

***Mental Models***

We understand the world and take action in it based on notions and assumptions that may reside deeply in the psyche. We may not be aware of the effect these models have on our perception and behavior, yet they have the power to hold us back or move us forward. Our mental models determine not only how we make sense of the world, but how we take action. Chris Argyris, who worked with mental models for forty years, put it this way: “Although people do not [always] behave congruently with their espoused theories [what they say], they do behave congruently with their theories-in-use [their mental models].

Mental models are the images, assumptions, and stories, which we carry in our minds of ourselves, other people, institutions, and every aspect of the world. A mental model is our view of the world-one which we create and confirm. Like a pane of glass framing and subtly distorting our vision, mental models determine what we see. Our fundamental beliefs and values are mental models. Every day, we make decisions and behave according to our mental models, often without thinking consciously about it. Human beings cannot navigate through the complex environments of the world without cognitive “mental maps”; and all of these mental maps, by definition, are flawed in some way.

Mental models are usually tacit, existing below the level of awareness; they are often untested and unexamined. They are generally invisible to us until we look for them.

As we create the healthcare system of the future, becoming aware of our mental models and how they influence our perceptions of what is possible, becomes increasingly important.

In summary, Mental Models

* Deeply held internal images, pictures or dialogue about who I am and how the world works.
* Usually incomplete, non-systemic and held as “truth”.
* Simple generalizations about how people operate and their motivation.
* Assumptions and complex theories about how the world works and why.
* Beliefs that we hold dear that explain what we see, what we experience and what we think is truth.
* What we see and how we evaluate what we see.
* Determine how we take action in the world.
* Thoughts that need to be surfaced and reframed.
* A powerful impact on personal, team and organizational learning and development.

With increased awareness of our mental models we become increasingly aware of the ways in which we continually construct our views of the world. We see assumptions and practices that have gone unquestioned for years and perhaps begin to imagine alternatives.

*Peter M. Senge*

Data Analytics

Data Analytics is the key to Population Health Management. It brings together claims data and clinical data in new and meaningful ways. Health systems will never achieve population health management if they continue to use only claims data or clinical data to analyze patient populations. Neither type of data provides the necessary depth of information when used alone. The solution is to combine claims and clinical data. While this process will not be easy, it is necessary if providers and payers want to achieve the three goals of population health management: improved outcomes, increased patient safety, and decreased costs.

Sources:

The Fifth Discipline, The Art and Practice of the Learning Organization, Peter Senge
The Fifth Discipline Fieldbook, Strategies and Tools for Building A Learning Organization Harmony Incorporated
Interactive Learning Laboratories Inc.

The Laws of The Fifth Discipline

The 11 laws of the Fifth Discipline have been reproduced here verbatim and were taken from The Fifth Discipline, by Peter Senge, pages 57-67.

**1. Today’s problems come from yesterday’s “solutions.”**

Once there was a rug merchant who saw that his most beautiful carpet had a large bump in its center. He stepped on the bump to flatten it out- and succeeded. But the bump reappeared in a new spot not far away. He jumped on the bump again, and it disappeared- for a moment until it emerged once more in a new place. Again and again, he jumped, scuffing and mangling the rug in his frustration; until finally he lifted one corner of the carpet and an angry snake slithered out.

Often we are puzzled by the causes of our problems; when we merely need to look at our own solution to other problems in the past. A well-established firm may find that this quarter’s sales are off sharply. Why? Because the highly successful rebate program last quarter led many customers to buy then rather than now. Or a new manager attacks chronically high inventory costs and “solves” the problem- except that the sales force is now spending 20 percent more time responding to angry complaints from customers who are still waiting for late shipments, and the rest of its time trying to convince prospective customers that they can have “any color they want so long as it’s black.”

Police enforcement officials will recognize their own version of this law: arresting narcotics dealers on 30th Street, they find that they have simply transferred the crime center to 40th Street. Or, even more insidiously, they learn that a new citywide outbreak of drug-related crime is the result of federal officials intercepting a large shipment of narcotics- which reduced the drug supply, drove up the price, and caused more crime by addicts desperate to maintain their habit.

Solutions that merely shift problems from one part of system to another often go undetected because, unlike the rug merchant, those who “solved” the first problem are different from those who inherit the new problem.

**2. The harder you push, the harder the system pushes back.**

In George Orwell’s Animal Farm, the horse Boxer always had the same answer to any difficulty: “I will work harder,” he said. At first, his well-intentioned diligence inspired everyone, but gradually, his hard work began to backfire in subtle ways. The harder he worked, the more work there was to do. What he didn’t know was that the pigs who managed the farm were actually manipulating them all for their own profit. Boxer’s diligence actually helped to keep the other animals seeing what the pigs were doing. Systems thinking has a name for this phenomenon: “compensating feedback”: when well-intentioned interventions call forth the responses from the system that offset the benefits of the intervention. We all know what it feels like to be facing compensating feedback- the harder you push, the harder the system pushes back; the more effort seems to be required.

Examples of compensating feedback are legion. Many of the best-intentioned government interventions fall prey to compensating feedback. In the 1960s there were massive programs to build low-income housing and improve job skills in decrepit inner cities in the United States. Many of these cities were even worse off in the 1970s despite the largesse of government aid. Why? One reason was that low-income people migrated from other cities and from rural areas to those cities with the best aid programs. Eventually, the new housing units became overcrowded and the job training programs were swamped with applicants. All the while, the city’s tax base continued to erode, leaving more people trapped in economically depressed areas.

Similar compensating feedback processes have operated to thwart food and agricultural assistance to developing countries. More food available has been “compensated for” by reduced deaths due to malnutrition, higher net population growth, and eventually more malnutrition.

Similarly, periodic efforts to correct the U.S. trade imbalance by letting the value of the dollar fall are often compensated for by foreign competitors who let prices of their goods fall in parallel (for countries whose currency is “pegged to the dollar,” prices adjust automatically). Efforts by foreign powers to suppress indigenous guerrilla fighters often lead to further legitimacy for the guerrillas’ cause, thereby strengthening their resolve and support, and leading to still more resistance.

Many companies experience compensating feedback when of their products suddenly starts to lose its attractiveness in the market. They push for more aggressive marketing; that’s what always worked in the past, isn’t it? They spend more on advertising, and drop the price; these methods may bring customers back temporarily, but they also draw money away from the company, so it cuts corners to compensate. The quality of its service (say, its delivery speed or care in inspection) starts to decline. In the long run, the more fervently the company markets, the more customers it loses.

Nor is compensating feedback limited to large systems- there are plenty of personal examples. Take the person who quits smoking only to find himself gaining weight and suffering such a loss in self-image that he takes up smoking again to relieve the stress. Or the protective mother who wants so much for her young son to get along with his schoolmates that she repeatedly steps in to resolve the problems and ends up with a child who never learns to settle differences by himself. Or the enthusiastic newcomer so eager to be liked that she never responds to subtle criticisms of her work and ends up embittered and labeled “a difficult person to work with.”

Pushing harder, whether through an increasingly aggressive intervention or through increasingly stressful withholding of natural instincts, is exhausting. Yet, as individuals and organizations, we not only get drawn into compensating feedback, we often glorify the suffering that ensues. When our initial efforts fail to produce lasting improvements, we push harder- faithful, as was Boxer, to the creed that hard work will overcome all obstacles, all the while blinding ourselves to how we are contributing to the obstacles ourselves.

**3. Behavior grows better before it grows worse.**

Low-leverage interventions would be much less alluring if it were not for the fact that many actually work, in the short term. New houses get built. The unemployed are trained. Starving children are spared. Lagging orders turn upward. We stop smoking, relieve our child’s stress, and avoid a confrontation with a new coworker. Compensating feedback usually involves a “delay,” a time lag motion where a man sitting in an armchair pushes over a giant domino encroaching upon him from the left. “At last, I can relax, “ he’s obviously telling himself in the cartoon. Of course, he doesn’t see that the domino is toppling another domino, which in turn is about to topple another, and another, and that the chain of dominoes behind him will eventually circle around his chair and strike him from the night.

The “better before worse” response to many management interventions is what makes political decision making so counterproductive. By “political decision-making,” I mean situations where factors other than the intrinsic merits of alternative courses of action weigh in making decisions- factors such as building one’s own power base, or “looking good,” or “pleasing the boss.” In complex human systems there are always many ways to make things look better in the short run. Only eventually does the compensating feedback come back to haunt you.

The key word is “eventually.” The delay in, for example, the circle of dominoes, explains why systemic problems are so hard to recognize. A typical solution feels wonderful when it first cures the symptoms. Now there’s improvement or maybe even the problem has gone away. It may be two, three, or four years before the problem returns, or some new, worse problems arrives. By that time, given how rapidly most people move from job to job, someone new is sitting in the chair.

**4. The easy way out usually leads back in.**

In a modern version of an ancient Sufi story, a passerby encounters a drunk on his hands and knees under a street lamp. He offers to help and finds out that the drunk is looking for his house keys. After several minutes, he asks “Where did you drop them?” The drunk replies that he dropped them outside his front door. “Then why look for them here?” asks the passerby. “Because,” says the drunk, “there is no light by my doorway.”

We all find comfort applying familiar solutions to problems, sticking to what we know best. Sometimes the keys are indeed under the street lamp but very often they are often in the darkness. After all, if the solution to were easy to see or obvious to everyone, it probably would have already been found. Pushing harder and harder on familiar solutions, while fundamental problems persist or worsen, is a reliable indicator of nonsystemic thinking- what we often call the “what we need here is a bigger hammer” syndrome.

**5. The cure can be worse than the disease.**

Sometimes the easy or familiar solution is not only ineffective; sometimes it is addictive and dangerous. Alcoholism, for instance, may start as simple social drinking- a solution to the problem of low self-esteem or work-related stress. Gradually, the cure becomes worse than the disease; among its other problems it makes self-esteem and stresses even worse than they were to begin with.

The long-term, most insidious consequence of applying nonsystemic solutions is increased need for more and more of the solution. This is why ill-conceived government interventions are not just all ineffective, they are “addictive” in the sense of fostering increased dependency and lessened abilities of local people to solve their own problems. The phenomenon of short-term improvements leading to long-term dependency is so common, it has its own name among system thinkers- it's called “shifting the burden to the intervenor.” The intervenor may be federal assistance to cities, food relief agencies, or welfare programs. All “help” a host system, only to leave the system fundamentally weaker than before and more in need of further help.

Finding examples of shifting the burden to the intervenor, as natural resource expert and writer Donella Meadows says, “is easy and fun and sometimes horrifying” and hardly limited government intervenors. We shift the burden of doing simple math from our knowledge of arithmetic to a dependency on pocket calculators. We take away extended families and shift the burden for care of the aged to nursing homes. In cities, we shift the burden from diverse local communities to housing projects. The Cold War shifted responsibility for peace from negotiation to armaments, thereby strengthening the military and related industries. In business, we can shift the burden to consultants or other “helpers” who make the company dependent on them, instead of training the client managers to solve problems themselves. Over time, the intervenor’s power grows- whether it be a drug’s power over a person, or the military budget’s hold over an economy, the size and scope of foreign assistance, the agencies, or the budget of organizational “relief agencies.”

“Shifting the burden” structures show that any long-term solution must, as Meadows says, “strengthen the ability of the system to shoulder its own burdens.” Sometimes that is difficult; other times it is surprisingly easy. A manager who has shifted the burden of his personnel problems onto a human relations specialist may find that the hard part is deciding to take the burden back; once that happens, learning how to handle people is mainly a matter of time and commitment.

**6. Faster is slower.**

This, too, is an old story: the tortoise may be slower, but he wins the race. For most American business people the best rate of growth is fast, faster, fastest. Yet, virtually all natural systems, from ecosystems to animals to organizations, have intrinsically optimal rates of growth. The optimal rate is far less than the fastest possible growth. When growth becomes excessive - as it does in cancer - the system itself will seek to compensate by slowing down; perhaps putting the organization’s survival at risk in the process. The story of People Express airlines offers a good example of how faster can lead to slower- or even full stop- in the long run.

Observing these characteristics of complex systems, noted biologist and essayist Lewis Thomas said, “When you are dealing with a complex social system, such as an urban center or a hamster, with things about it that you are dissatisfied with and eager to fix, you cannot just step in and set about fixing with much hope of helping. This realization is one of the sore discouragements of our century.”

When managers first start to appreciate how these systems principles have operated to thwart many of their own favorite interventions, they can be discouraged and disheartened. The systems principles can even become excuses for inaction- for doing nothing rather than possibly taking actions that might backfire, or even make matters worse. This is a classic case of a little knowledge being a dangerous thing. For the real implications of the systems perspective are not inaction but a new type of action rooted in a new way of thinking- systems thinking is both more challenging and more promising than our normal ways of dealing with problems.

**7. Cause and effect are not closely related in time and space.**

Underlying all of the above problems is a fundamental characteristic of complex human systems: cause and effect are not close in time and space. By “effects,” I mean the obvious symptoms that indicate that there are problems- drug abuse, unemployment, starving children, falling orders, and sagging profits. By “cause” I mean the interaction of the underlying system that is most responsible for generating the symptoms, and which, if recognized, could lead to changes producing lasting improvement. Why is this a problem? Because most of us assume they are- most of u assume, most of the time, that cause and effect are close in time and space.

When we play as children, problems are never far away from their solutions- as long, at least, as we confine our play to one group of toys. Years later, as managers, we tend to believe that the world works the same way. If there is a problem on the manufacturing line, we look for a cause in manufacturing. If salespeople can’t meet targets, we think we need new sales incentives or promotions. If there is inadequate housing, we build more houses. If there is inadequate food, the solution must be more food.

As the players in the beer game described in Chapter 3 eventually discover, the root of our difficulties is neither recalcitrant problems nor evil adversaries-but ourselves. There is fundamental mismatch between the nature of reality in complex systems and our predominant ways of thinking about that reality. The first step in correcting mismatch is to let go of the notion that cause and effect are close in time and space.

**8. Small changes can produce big results- but the areas of highest leverage are often the least obvious.**

Some have called systems thinking the “new dismal science” because it teaches that most obvious solutions don’t work- at best, they improve matters in the short run, only to make things worse in the long run. But there is another side to the story. For systems thinking also shows that small, well-focused actions can sometimes produce significant, enduring improvements if they’re in the right place. Systems thinkers refer to this principle as “leverage.”

Tackling a difficult problem is often a matter of seeing where the high leverage lies, a change which -with a minimum of effort- would lead to lasting, significant improvement.

The only problem is that high-leverage changes are usually highly non-obvious to most participants in the system. They are not “close in time and space” two obvious problem symptoms. This is what makes life interesting.

Buckminster Fuller had a wonderful illustration of leverage that also served as his metaphor for the principle of leverage- the “trim tab.” A trim tab is a small “rudder on the rudder” of a ship. It is only a fraction of the size of the rudder. Its function is to make it easier to turn the rudder, which, then, makes it easier to turn the ship. The larger the ship, the more important is the trim tab because a large volume of water flowing around the rudder can make it difficult to turn.

But what makes the trim tab such a marvelous metaphor for leverage is not just its effectiveness, but its non-obviousness. If you knew absolutely nothing about hydrodynamics and you saw a large oil tanker plowing through the high seas, where would you push if you wanted the tanker to turn left? You would probably go to the bow and try to push it to the left. Do you have an idea how I'm going to the stern and pushing the tail end of the tanker to the right, in order to turn the front to the left? This, of course, is the job of the rudder. But in what direction does the rudder turn in order to get the ship’ stern to turn to the right? Why, to the left, of course.

You see, ships turn because their rear end is “sucked around.” The rudder, by being turned into the oncoming water, compresses the water flow and creates a pressure differential. The pressure differential pulls the stern in the opposite direction as the rudder is turned. This is exactly the same way an airplane flies: the airplane’s wing creates a pressure differential and the airplane is “sucked” upward.

The trim tab- this very small device that has an enormous effect on the huge ship- does the same for the rudder When it is turned to one side or the other, it compresses the water flowing around the rudder and creates a small pressure differential that “sucks the rudder” in the desired direction. But, if you want the rudder to run to the left, what direction do you turn the trim tab?- to the right, naturally.

The entire system- the ship, the rudder, the trim tab- is marvelously engineered through the principle of leverage. Yet, its functioning is totally non-obvious if you do not understand the force of hydrodynamics.

So, too, are the high-leverage changes in human systems nonobvious until we understand the forces at play in those systems.

There are no simple rules for finding high-leverage changes, but there are ways of thinking that make it more likely. Learning to see underlying structures rather than events is a starting point; each of the systems archetypes developed below suggests areas of high- and low-leverage change.

**9. You can have your cake and eat it too - but not at once.**

Sometimes, the knottiest dilemmas, when seen from the systems point of view, aren’t dilemmas at all. They are artifacts of “snapshot” rather than “process” thinking and appear in a whole new light once you think consciously of change over time.

For years, for example, American manufacturers thought they had to choose between low cost and high quality. “Higher quality products cost more to manufacture,” they thought. “They take longer to assemble, require more expensive materials and components and entail more extensive quality controls.” What they didn’t consider were all the ways that increasing quality and lowering costs could go hand in hand, over time. What they didn’t consider was how basic improvements in work processes could eliminate rework, eliminate quality inspectors, reduce customer complaints, lower warranty costs, increase customer loyalty, and reduce advertising and sales promotion costs. They didn’t realize that they could have both goals if they were willing to wait for one while they focused on the other. Investing time and money to develop new skills and methods of assembly, including new methods for involving everyone responsible for improving quality, is an up-front “cost.” Quality costs may both go up in the ensuing months; although some cost savings (like reduced rework) may be achieved fairly quickly, the full range of cost and savings may take several years to harvest.

Many apparent dilemmas, such as central versus local control, and happy committed employees’ versus competitive labor costs, and rewarding individual achievement versus having everyone feel valued, are by-products of static thinking. They only appear as rigid “either-or” choices, because we think of what is possible at a fixed point in time. Next month, it may be true that we must choose or the other, but the real leverage lies in seeing how both can improve over time.”

**10. Dividing an elephant in half does not produce two small elephants.**

Living systems have integrity. Their character depends on the whole. The same is true for organizations; to understand the most challenging managerial issues requires seeing the whole system that generated the issues.

Another Sufi tale illustrates the point about this law. As three blind men encountered an elephant, each exclaimed aloud. “It is a large rough thing, wide and broad like a rug,” said the first, grasping an ear. The second, holding the trunk, said, “I have the real facts. It is a straight and hollow pipe.” And the third, holding a front leg, said, “It is mighty and firm, like a pillar.” Are the three blind men any different from the heads of manufacturing, marketing and research in many different companies? Each sees the firm’s problems clearly, but none see how the policies of their departments interact with the others. Interestingly, the Sufi story concludes by observing that “Given these men’s ways of knowing, they will never know an elephant.”

Seeing “whole elephants” does not mean that every organizational issue can be understood only by looking at the entire organization. Some issues can be understood only by looking at how major functions such as manufacturing, marketing and research interact; but there are other issues where critical systemic forces of an entire industry must be considered. The key principle, called the “principle of systems boundary,” is that the interactions that must be examined are those most important to the issue at hand, regardless of parochial organizational boundaries.

What makes this principle difficult to practice is the way organizations are designed to keep people from seeing important interactions. One obvious way is by enforcing the rigid internal divisions that inhibit inquiry across divisional boundaries, such as those that grow up between marketing, manufacturing and research. Another is by leaving problems behind us, for someone else to clean up. Many European cities have avoided the problems of crime, entrenched poverty, and helplessness that afflict so many American inner cities because they have forced themselves to face the balance that a healthy urban area must maintain. One way they have done this is by maintaining large “green belts” around the city that discourage the growth of suburbs and commuters who work in the city work outside it. By contrast, many American cities have encouraged steady expansion of the surrounding suburbs, continually enabling wealthier residents to move further from the city center and its problems. (Impoverished areas today, such as Harlem in New York and Roxbury in Boston were originally upper-class suburbs.) Corporations do the same thing by continually acquiring businesses and “harvesting” what they choose to regard as mature businesses rather than investing in them.

Incidentally, sometimes people go ahead and divide and elephant in half anyway. You don’t have to small elephants then; you have a mess. By a “mess,” I mean a complicated problem where there is no leverage to be found because the leverage lies in the interaction that cannot be seen from looking only at the pieces you are holding.

**11. There is no blame.**

We all tend to blame someone else- the competition, the press, the changing mood of the marketplace, the government- for our problems. Systems thinking shows us that there is no separate “other,” that you and someone else are part of a single system. The cure lies in your relationship with your “enemy.”