

The Lean English Podcast

Episode 5: Systems Thinking



1. Episode 5: Systems Thinking

Welcome to the fifth episode of The Lean English Podcast. My name is Tom and I will be your host. Thank you for joining me. I know I promised you that I would publish real conversations in English after episode 4, but I live in France and everyone is on vacation right now. If you have never visited France, here is a little hint. From the beginning of July to the end of August, everyone goes on vacation. And if they are not on vacation, they are dedicated to doing as little as possible. Every three weeks, they take turns; half of the country finds a place to go camping or decides to visit a friend who lives by a beach while the other half stays at work. They somehow keep the country running but no business decisions are made. In fact, if you are trying to do business in France, you had better plan on making arrangements before May, because everyone is already making summer plans by then. This was my mistake. I started asking friends to sit down for a podcast in June, which was too late.

So, I decided to go ahead with another educational episode. Today we're talking about Systems Thinking and The Fifth Discipline, subjects that support the process improvement methodologies that we covered in our first 4 episodes.

But if this is your first time joining us, you might be wondering how I got here. I hate talking about myself, so I summarized the past 17 years into a quick timeline of important events.

- 2009 – met French girl
- 2011 – married French girl
- 2014 – had kids

Commented [TS1]: These are called bullet points. They abbreviate, or shorten, information into condensed phrases. To do this, they do not use subjects or articles.

- 2017 – started listening to French podcasts to improve my French
- 2022 – moved to France
- 2024 – started teaching English; created my own training company
- 2026 – received Qualiopi certification for students who want to use their CPF to fund my courses
- Last month – started The Lean English Podcast to give English learners information on how to improve their business

And now you're up to date. Thank God that's over. Now we can get back to the topics for today, Systems Thinking and The Fifth Discipline.

2. But before getting into Systems Thinking, let's do a quick review of the first four episodes.

Episode one was an introduction to my company, the podcast and process improvement theories. We covered major events in the discovery of important tools and principles and then talked about the pros and cons and differences between Lean, Six Sigma and Agile. Lean is synonymous with the Toyota Production System because it was developed by Toyota over decades of trial and error. Six Sigma was created by engineers at Motorola as a project management methodology, using probability and statistics for advanced problem solving and process improvement. Agile is a term for many types of software development that use iterations and Lean principles to meet customer demands in a changing marketplace.

Commented [TS2]: Iteration: the process of doing something again and again, usually to improve it.

Episode 2 focused exclusively on Lean. There are 14 main principles that help frame Toyota's process improvement mindset. Lean challenges everyone in the organization to find where they add value to the product and remove unnecessary, wasteful activities.

Part 2 of the Lean episode was all about the tools and techniques that anyone can implement in their company. One of Lean's many benefits is how easily it can be adapted into your daily activities. There is a very low barrier to adoption and most of the tools can be implemented without new technology. And the benefits can be enormous, as shown by the performance of some of the most profitable companies in the world. If this sounds interesting to you, listen to the second episode to learn more.

Just as episode 2 covered Lean, episodes 3 and 4 were strictly about Six Sigma and Agile respectively. For processes that require statistical analysis and experimentation for quality improvement, Six Sigma offers the tools, training and infrastructure to optimize your product and performance.

Commented [TS3]: Respectively: in a way that relates or belongs to each of the separate people or things you have just mentioned

Six Sigma uses 5 phases to define the problem, measure its impact, analyze the pertinent data, improve the product and control the outcome. Six Sigma requires that all projects must improve the company's profitability. There is some overlap between Lean and Six Sigma tools and they are often taught together as one methodology called Lean Six Sigma.

In episode 4, we see that Agile is software development based on the 4 Values and 12 Principles of the Agile Manifesto. It uses an iterative approach to deliver working software and new techniques to ensure the team writes high-quality code. Traditional forms of

project management take too long to develop software. The development teams would spend months identifying all the possible requirements for the product, then spend a few more months on design. All this would happen before any code is written. As Agile is based on Lean, the team minimizes waste activities and gets started developing the product as soon as they have a basic understanding of it. This is because the developer and the client are no longer in adversarial roles. Agile transforms their relationship into a collaboration that shortens the delivery time because the client gives continual feedback as the software is developed.

3. But let's not dwell on the past. This is the agenda for our two-part episode today. As usual, part 1 will start with the definitions, principles and philosophy of Systems Theory and Systems Thinking. Then we will dive into Peter Senge's seminal work The Fifth Discipline and how businesses can use Systems Thinking to become Learning Organizations (Senge, 2006).

Commented [TS4]: Seminal: containing important new ideas and having a great influence on later work

Part 2 is when we will discuss how to create and use Causal Loop Diagrams to understand the systems you are investigating. If you are familiar with process mapping, Causal Loop Diagrams function in much the same way. They are graphs that show how parts in a system interact and influence each other. Learning to read these diagrams takes time, but we will go step by step. Then we will cover the 10 Systems Archetypes; 10 commonly occurring patterns in businesses and markets that show you how to escape vicious cycles. A vicious cycle is "a complex chain of events that reinforces itself through a feedback loop, with detrimental results." (Charles Webel, 2012) Each iteration of the cycle will continue to produce negative outcomes until an external source breaks the pattern. This

is contrasted by a virtuous cycle, which is a pattern that continually produces positive outcomes.

If you find your business's outcomes repeat themselves, it is because you are stuck in a system you do not understand. So, let's get started so hopefully we can get you unstuck.

4. Problems do not stay problems because they are easy to fix. It is often because we do not understand how to find the root cause, so most of our solutions merely treat the symptoms.

Systemic problems, issues that recur, greatly impact your ability to run a successful business. But rarely do we find a simple, direct, linear link between cause and effect. Often the impact we experience is well removed from the cause, which creates a limited understanding of how to solve our problem.

So, before we can create solutions that matter, we must first understand how the system that is creating our problem operates.

5. As our world becomes more complex and interrelated, we are often unaware of how our outcomes are generated. So, we turn to Systems Theory.

Systems Theory is the study of systems and how their interdependent components influence one another, creating outcomes that cannot be understood without viewing the whole. This idea is used in other process improvement methods as well. In Lean, we see the use of cross-functional teams that work with every function in the company to solve problems. Six Sigma projects use statistical analysis and experimentation to find the root causes of complex problems, uncovering links that are not obvious. And Agile created an entirely new system of software development because

Commented [TS5]: Particularly to create slang, we often add the prefix "un" to make a word that means the opposite of the original definition. Unstuck is the opposite of stuck. I have recently heard the word "unalive" used to mean dead or to kill. "He was unalive" = "He was killed."

Commented [TS6]: Systemic: relating to or affecting the whole of a system, organization, etc. rather than just some parts of it.

the old system did not understand the dynamics of the client/customer interaction.

Systems Thinking is the application of Systems Theory in systems management. It takes the theory and puts it into practice. If your business is making decisions without taking a systems view, it can lead to vicious cycles and suboptimization.

6. Suboptimization occurs when process improvement efforts are shunted by the lack of systems thinking. Local or short-term fixes are applied to a process step that improves one step to the detriment of others in the system. These band-aid fixes relieve the symptoms for a short while, and individual metrics may improve, but the problem will persist.

Commented [TS7]: Band-aid fix: a solution that merely treats the superficial symptoms.

No matter how well the one process step performs, without proper influence on the root cause of the system's problem, it will not benefit the entire system, thus ensuring that the problem continues.

All activities should be evaluated by how they impact the system, and in turn, the product or service you are delivering to the customer.

7. Now for some important vocabulary. A system is a collection of interacting parts where behavior from one part influences the other parts. Influence from outside the system's boundaries is less influential than influence inside the system, so don't expect a solution to come from an external source. You must change the system from within.

System behavior is understood only by viewing the whole, not individual parts. Systems are too complex and influences are typically non-linear.

Feedback is a process by which the results of an activity or action are returned to the actor in a way that influences the behavior of that actor. Positive and negative feedback can occur and change behavior in different ways.

Systems Thinking works to change outcomes by understanding how the system works and using that knowledge for problem solving.

8. A part of a system is anything that generates influence on another part. For example, a part in a company's system can be resources such as workers, heavy equipment, tools and raw materials. They can also be intangible items such as leadership, quotas, values and plans.

Influence is measured by the impact one part has on another part during an interaction. For example, a deadline imposed by leadership during a quarterly meeting interacts with managers, workers, and suppliers to influence change.

When stepping back, we see that the deadline itself is influenced by a part in a larger system like customer demand, the company's stock market price or a competitor's business decision.

Only through systems analysis do we see them all connected.

9. Researching how your company acts will take a lot of time and a lot of truth telling. We know that complex systems rarely create linear relationships, so investigating cause and effect requires executive level support. Peter Senge mentions in *The Fifth Discipline* that companies who wish to become Learning Organizations must confront the systems they have created, regardless of the outcome.

As we say in America, no one wants to hear that their baby is ugly and no executive wants to take the blame for bad decisions. So, any team that evaluates a company's systems to find the cause of major problems must have the authorization from a senior executive and be separated from the chain of command. Otherwise, they may be punished for revealing the truth about an executive's work. But remember that influences inside a system are more powerful than external influences, which means that most of a company's problems are caused by themselves. So, here is a word of caution; be prepared to upset some people.

10. So, why use Systems Thinking? You can choose to develop a systems approach to solving your problems for many reasons. But the most common is that you are taking actions that do not provide the results you anticipated.

Unseen systems contain forces that either negate or reduce the impact of your actions. Some systems are unseen because we do not know how to see them. Others are unseen because we choose not to see them. For either reason, we must understand them to create the outcomes we desire.

To be successful, everyone in the company must contribute to this effort of seeing reality – seeing the systems that determine and shape the company's future. To do this, an organization must learn how to learn.

11. Peter Senge describes a Learning Organization (LO) as one that is continually expanding its capacity to create its future.

“Learning” in this context does not mean acquiring more information but expanding the ability to produce the results we truly

want in life. Real learning is a company's ability to truly see the world around them, understand how their actions and the actions of others are created in a system that produces complex outcomes, and know how to react to changes within the system. It is not about taking in information; it is about understanding our system so we can create the outcomes we desire.

Senge outlines five disciplines practiced by Learning Organizations to tap people's commitment and capacity to learn at all levels in an organization.

12. The first discipline is achieving personal mastery. People with high levels of personal mastery are continually expanding their ability to create the results in life they truly seek.

The second is shifting mental models. New initiatives fail to change our results if they conflict with preexisting mental models; views of how we see the world. Seeing truly how the world works will be difficult if we are not able to challenge our current beliefs.

The third is building shared vision. Individuals do not sacrifice their personal interests to the larger team vision; rather, the shared vision becomes an extension of their personal visions.

The fourth is team learning. Companies cannot learn unless groups of individuals with limited perspectives come together to share their experience and collaborate honestly. Individuals must balance advocacy with inquiry and must not overlook or hide disagreements to get along with others. Conflict is a natural component of change.

The fifth is systems thinking – the discipline that ties the other four together because without it a team will develop short sighted,

symptomatic solutions. Collaborative teams with the best intentions will nonetheless fail.

13. These are Senge's three learning capabilities. Fostering aspiration means helping people set and pursue collective, long-term goals, align their personal mastery with shared vision, nurture ambitious thinking, and release collective energy toward desired future outcomes within a learning organization.

Developing reflective conversations means fostering dialogue that helps people think critically about their assumptions, mental models, and the interdependencies within an organization. It enables deeper learning and shared understanding that supports adaptive change and a collective vision.

Understanding complexity. There are two types of complexity, Detail and Dynamic. Detail complexity is when you can find simple cause and effect relationships. Dynamic complexity deals with situations where cause and effect are subtle, and where the effects over time are not obvious. The real leverage in most management situations lies in understanding dynamic complexity.

14. What are the things that keep your organization from learning? Senge outlines 7 Learning Disabilities that hinder personal growth and restrict organizations from seeing how they create their own problems.

I am my position: When people in organizations focus only on their position, they have little sense of responsibility for the results produced when all positions interact. They will often strongly defend the status quo, believing if the work they are performing is causing problems, then they, personally, are under attack.

The enemy is out there: The 'enemy is out there' syndrome is actually a by-product of 'I am my position,' and the nonsystemic ways of looking at the world that it fosters. This can cause us to look outside the organization to find the source of our problems. A bad leader will often identify a scapegoat to blame for all the company's ills.

The illusion of taking charge: All too often proactiveness is reactiveness in disguise. Whether in business or politics, if we simply become more aggressive fighting the 'enemy out there,' we are reacting, regardless of what we call it. Good leaders do not need a negative event to begin improvement projects.

The fixation on events: The primary threats to our survival, both of our organizations and of our societies, come not from sudden events but from slow, gradual processes. Generative learning cannot be sustained in an organization if people's thinking is dominated by short-term events. This keeps us from learning to create and seeing influences that are not obvious.

The parable of the boiled frog. If you put a frog into a pot of hot water, he will immediately jump out. If you put it in cold water, but slowly increase the heat, it will sit in the pot until it boils. Learning to see gradual processes requires us to slow down our frenetic pace and pay attention to the subtle as well as the dramatic.

The delusion of learning from experience: Most events are greatly separated from their causes. We never directly experience the consequences of many of our most important decisions. What we do today will have long-ranging implications; events that we will never be able to see as relating to today's actions.

The myth of the management team: “Most management teams break down under pressure,” writes Harvard’s Chris Argyris (Senge, 2006). “The team may function quite well with routine issues. But when they confront complex issues that may be embarrassing or threatening, the ‘teamness’ seems to go to pot.” Poor teams squelch disagreement, have people who avoid stating reservations publicly and joint decisions are watered-down compromises, or reflect only one person’s opinion. These management teams are unable to solve complex problems because they are unwilling to speak the truth or challenge authority if it hurts someone’s feelings.

15. These are the Laws of the Fifth Discipline. These are statements of truth that Senge outlines in his book that help guide companies to become Learning Organizations.

Today’s problems come from yesterday’s solutions. Many of our activities have unintended consequences. As a personal trainer, I often saw individuals who wanted to lose weight in a very short period of time begin intense physical training and unsustainable diet plans. This would cause significant short-term weight loss. However, when taken to this extreme level, the activity would cause injuries, followed by periods of inactivity and depression, leading the individual to gain back all the weight they had lost.

The harder you push, the harder the system pushes back. This is called compensating feedback. In Haiti, after the earthquake in 2010, foreign governments sent tons of food aid to help the devastated country. However, local farmers complained that all the free food had destroyed the market for Haitian goods. Farmers were unable to sell their crops, and if the aid continued, the farmers

would be out of business. The more governments provided aid, the harder it would be for Haiti to find a long-term solution for their food shortage problem.

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. But compensating feedback usually involves a “delay,” a time lag between the short-term benefit and the long-term disbenefit. This delay explains why systemic problems are so hard to recognize. For example, law enforcement agencies may increase patrols in bad neighborhoods to reduce criminal activity. Crime goes down and people believe that patrols are the solution to the problem. However, patrols merely treat the symptoms. Since the causes of the crime are not yet being addressed, after a period of time, the criminals simply move to a new area that is not being patrolled.

The easy way out usually leads back in. Pushing harder and harder on familiar solutions, while fundamental problems persist or worsen, is a reliable indicator of nonsystemic thinking. A square peg will not fit into a round hole just because you use a bigger hammer. In America we say, “work smarter, not harder.”

The cure can be worse than the disease. Sometimes the easy or familiar solution is not only ineffective; sometimes it is addictive or dangerous. The long-term consequence of applying nonsystemic solutions is the need for more of the solution. The phenomenon of short-term improvements leading to long-term dependency is very common. I remember an anti-drug ad from the 1980s. A businessman is rationalizing why he uses cocaine. He explains, “I

take cocaine to have more energy, so I can work more, so I can make more money, so I can buy more cocaine, to have more energy, so I can work more, so I can make more money, so I can buy more cocaine...” The ad was so effective, I stopped using cocaine at age 11. Just kidding. I still take it. How do you think I finish these podcasts?

16. Faster is slower. Faster is slower because when we are in a hurry, we create defects that need to be repaired, losing all the time that was initially saved. We see the same principle throughout Lean Management. A slow, steady pace we can maintain for a long time that focuses on quality, offers the organization the best chance to meet customer demand.

Cause and effect are not closely related in time and space. 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. Thinking in terms of processes of change rather than snapshots is another. Don't focus on the results, focus on the process.

Small changes can produce big results. Systems thinking shows that small, well focused actions can sometimes produce significant, enduring improvements, if they're in the right place. The principle of Kaizen in Lean is a perfect example of this law. Too often we are enamored by the stretch goal, the top of the mountain, the New Year's resolution. We forget that the journey of a thousand miles begins with a single step and needs to be followed by a million small steps.

You can have your cake and eat it too – just not at once. For years American manufacturers thought they had to choose between low cost and high quality. They didn't believe that these apparently contradictory benefits were able to be produced by the same system. They only appeared as rigid either/or choices because the American system was built on adversarial relationships between workers and management. The Japanese system was built on a more collaborative relationship, allowing Japanese manufacturers to harness the creativity of their workers in problem solving.

Dividing an elephant in half does not produce two small elephants. Living systems and organizations have integrity. You cannot simply remove a department from your business because it is not performing up to standard. Understanding challenging managerial issues requires seeing the whole system that generates the issues.

There is no blame. If we focus on blaming one another, we will never get together to solve our most important problems. Systems Thinking shows us that problems are not created in a vacuum. There is no other separate system that is causing all the problems. For example, when confronting a global crisis like Climate Change, we must realize we are all in this together. We are all part of a single system, the planet earth. There is not one country or organization that is causing all the problems. The cure lies in managing our relationship with our perceived enemies.

17. There is no roadmap that provides the best way to become a learning organization, but there are essential components.

Leadership commitment and active participation are critical to set the example that learning is required by everyone. As I stated

earlier, only executive support can push an initiative like this. Enterprise-wide training in Systems Thinking and understanding the mental models is a good first goal.

Promote Personal Mastery in employees who seek to improve themselves. The best systems are pull systems; it is difficult to push this discipline on someone who is either unwilling or unable to accept change.

Provide incentives for individuals and teams that challenge the status quo and search for the causal links to both successes and failures. Initial training is not enough. Systems Thinking must be supported by ongoing events and seen as the only way forward. Otherwise, people will regress to old habits.

Create diagrams for as many systems as you can find and experiment with leverage points. Everyone needs to be involved so they can provide insight into unseen influences.

18. Well, that covers our review of Systems Thinking and *The Fifth Discipline*. We will cover Causal Loop Diagramming and Systems Archetypes in part 2, so stick around if you're interested. If you are enjoying the material or have a suggestion on how to improve the podcast, leave me a comment and let me know what you think. Thanks so much for listening. Until next time, be good and I'll talk to you later.

1. Part 2 of Episode 5: Systems Thinking

Welcome back to the Lean English Podcast. I am your host Tom, and this is the second part of our episode on Systems Thinking. If you are just joining us, in part 1 we covered the principles and philosophy of Systems Theory problem solving and Systems Thinking. Then we related Systems Thinking to Organizational Learning. It is not enough for the head of a company or even an entire division to understand Systems Thinking. Everyone in the company must embrace these principles or else suboptimization occurs. We finished part 1 with lessons from *The Fifth Discipline*, by Peter Senge. This is one of the most important works on the subject of Systems Thinking. I highly recommend it.

In Part 2, we will cover the topics of System Archetypes and describe how they are documented using Causal Loop Diagrams. These diagrams are powerful tools for businesses to help them understand the systems that control their actions and how their actions influence other parts. So, let's get started.

2. So, why should we create causal loop diagrams? The main benefit of diagramming your company's system is to find the leverage points that you will use to influence the system. These lead to long-term solutions, as short-term thinking depends on linear causality. Linear causality is when we can easily identify causes to our problems. However, nowadays, it is much more difficult to find root causes due to the complex nature of our world and the interconnectivity of our businesses.

Another benefit from causal loop diagrams is that there are many systems that have already been diagrammed called Systems

Archetypes. These are systems that are popular throughout history and can be seen everywhere. Understanding these archetypes may help you understand your business even better.

3. When you begin modeling, remember that it should serve a purpose, to understand the system you are trying to change.

Stop modeling when you understand it well enough to take some action. If you don't, you may fall into the trap of mapping systems that you do not influence.

Also, while understanding the system is an important first step, it is not the final activity.

Just as Value Stream Mapping by itself does not reduce process waste, system modeling does little if process improvement activities do not follow.

4. As I mentioned earlier, causal loop diagramming is a tool used by engineers to visualize the systems they are trying to understand.

Just as process and value stream maps help us understand what we are doing, these maps help us understand the parts of a system that impact our outcomes.

There are 4 steps to Causal Loop Diagramming, according to Colleen Lannon (Lannon):

Create Variable names. These variables are the things that influence the system. In a city's transportation system, one variable could be the number of single passenger cars owned by its residents. The name could be "single car usership."

Draw the links. Variables change depending on influences. The link is labeled "s" or "+" if they move together, or "o" or "-" if they move in

opposite directions. For example, single car usership would have the opposite influence on the “circulation rate,” the time it takes to drive across town. As more people drive cars to work the number of cars on the road increases, and the circulation rate decreases.

Label the Loop. Loops are either balancing loops or reinforcing loops. Inside a reinforcing loop, you will find an R and a B will be found inside a balancing loop. For example, the poor circulation rate may make it undesirable to use a car to get to work because it takes too long to drive across town, thus reducing single car usership. This would create a balancing loop as the variables work together to reduce the stress on the transportation system caused by cars.

A reinforcing loop would be created if there was a variable that continued to increase car usership. For example, what if the city built new roads to solve the poor circulation problem instead of promoting mass transportation options? Well, then people would continue to use their cars to get to work instead of taking the bus.

Talk through the Loop. Maps are nice for people who know how to read them, but for most people, they will want to hear the story. Create a narrative of what the variables are and how they influence one another.

5. Here is an example to show how variables or parts and influences are represented. In this simple diagram, we see how two parts of a company’s system, employee morale and employee stress, influence a third part, employee productivity. The variable in the middle is the part in the system that we are investigating. The company is interested in improving productivity, so they perform an investigation to see what influences it. The arrows show the

direction of the influence, from one part to another. On the left, we see that Morale has a positive (+) or reinforcing influence; as morale goes up or down, productivity goes up or down. On the right side, we see that Employee Stress as a negative (-) or inverse influence; as stress increases, productivity decreases.

6. As we know in life, not all relationships are linear, and we often must deal with the repercussions of our actions without knowing what caused them.

Here we see how Causal Loop Diagramming depicts the downfall of AOL, the internet service provider that owned the majority of the market in the late 1990's and early 2000s (Braun, 2002). The loop on the left is labeled R, showing it is a reinforcing loop, while the one on the right is labeled with a B for balancing loop. The number 1 helps differentiate it from other reinforcing loops. In a large causal loop diagram, there may be more than 1 reinforcing or balancing loop.

In this system, a company is trying to improve their sales. When confronted with this problem, many executives use short-term thinking and try to drive revenue by cutting prices and marketing the product heavily. This action is seen in the reinforcing loop on the left; the more marketing we perform, the more sales we receive.

However, sales are not only influenced by their marketing campaign. Sales are also influenced by customer satisfaction. In this system, improved sales drive customer demand for the service, but the company was not prepared for the increased demand and the service suffered. This is the balancing loop on the right represented by the negative (-) sign from "Demand exceeding capacity" to sales.

The service was so poor that new and existing customers moved to the competition.

This loop shows us that the company's leverage, or solution to their problem, was to improve the service, not offer more discounts. Only if the influence from the balancing loop is resolved can the marketing campaigns improve the company's performance.

7. Archetype: Wikipedia defines an archetype as “a universally understood symbol or term or pattern of behavior, a prototype upon which others are copied, patterned, or emulated. (Wikipedia, 2025)”

It is important to study System Archetypes so we can quickly identify leverage points for the system we are in. This is because patterns of organizational behavior are not unique. Without proper awareness, the system will lead the company down predictable paths of limited growth or decreasing performance.

8. Knowledge of Systems Archetypes can be used to benefit your organization in 2 ways: Diagnostically and Prospectively.

Diagnostically – helping your company understand patterns that are at work in your organization right now. You may even recognize some of your company's activities in one or more of these archetypes that we discuss today.

Prospectively – the company uses its understanding of these patterns to foresee the problems they may have when they decide to implement change in the organization. It is useful to know how to recognize and avoid these archetypes to prevent the organization from adopting bad habits in the first place.

9. Each Archetype will have its own diagram that shows the relationship between efforts and results, actions and consequences.

From these diagrams, you understand the need for Systems Thinking which incorporates the theory that all actions are both a cause and an effect. From our AOL example, the effort made by the company to increase sales, continued marketing promotions, directly contributed to the thing that kept sales down, which was increased customer dissatisfaction.

With Systems Thinking, it is easy to see how we can get trapped in vicious cycles.

10. William Braun outlines 10 System Archetypes in his paper that we will discuss through the remainder of this podcast. The first five are: Limits to Growth, Shifting the Burden, Eroding Goals, Escalation, and Success to the Successful.

11. Then we have Tragedy of the Commons, Fixes that Fail, Growth and Underinvestment, Accidental Adversaries and Attractiveness Principle. (Braun, 2002) Each has its own pattern of parts and influences that have been identified as common to that archetype. As we move through these, think about instances in your company or your personal life that exhibit the same behavior.

12. We will start with Limits to Growth since we have already seen an example of this with the AOL diagram from earlier. This is where a reinforcing dynamic is negated by a balancing dynamic. All efforts to progress are initially supported and reinforced, but eventually a balancing system counters the growth. The leverage comes from

identifying and removing the balancing dynamic, not increasing the reinforcing dynamic.

This archetype is often found in nature. Imagine a population of animals that live on an island. If there are no predators, the population continues to grow without restriction until they reach the limit of the food source or they catch a disease. My wife's family vacations on a small island off the coast of France every summer. There is a population of rabbits that live there. For the past few years, the numbers continued to grow until overpopulation pushed all the rabbits together. These close quarters allowed disease to spread rapidly. The disease reduced the population until the remaining rabbits were able to live far enough away from one another so that if one was sick, the rest could remain safe. In this scenario, the disease is a balancing action. Reproducing more rabbits would contribute to actually reducing the population. To increase the population, you need to find a cure for the disease. That is the leverage.

13. Shifting the burden shows the tension between initiating a change to attack the symptom and a change that fixes the problem at the root cause. Often simply treating the symptom (a short-term solution) is more attractive than going after a long-term solution.

The real problem is that the short-term fix often makes us think we fixed the real issue, and we lose interest in the long-term fix.

If we follow arrows on the B1 loop, we see that the symptomatic solution creates a side effect that reduces the impact of a fundamental solution. This type of short-term thinking is anathema to creating a sustainable strategy.

Commented [TS8]: Anathema: a thing or an idea that you hate because it is the opposite of what you believe

I experienced this situation when I worked for Sprint, a telecommunications company that had been in business for over 100 years. Sprint was trying to improve its position in the marketplace, so they hired a new CEO to help make this happen. He quickly outsourced their strategic decision-making to McKinsey, a consulting firm that often prioritizes profits over principle (Robichaud, 2025). McKinsey promoted a short-term, symptomatic solution; cutting employees to control costs. The company fired many of their employees. This lowered costs but it made it difficult to improve customer service. Reacting to this problem, Sprint hired new employees but continued to use McKinsey. This is the symptomatic solution from Balancing loop B1. Their presence nullified our work, lowering the impact of the fundamental solution – which was allowing the workers to do their job and help the company grow. This side effect is the Reinforcing loop because it helped the problem continue when it reduced the impact of the worker's efforts. As McKinsey took control, the fundamental solution of developing a long-term strategy, which is represented by Balancing loop B2, could not contribute to problem solving. McKinsey eventually recommended another round of layoffs to show a potential buyer that they would be an asset for acquisition. In short, they were giving up and looking to be purchased by a competitor, which happened a few years after I left.

Commented [TS9]: You can read the article here: [Exposing McKinsey & Company's Complicity in Corporate Malfeasance and Environmental Destruction](#)

14. Eroding Goals is similar to Shifting the Burden because again there is a desire for a short-term fix. If we choose a symptomatic solution rather than a fundamental one, our actions to improve our condition will actually create a larger gap between our performance and our goal. This increases the pressure to adjust our goal to

ensure it can be met. We admit that we simply cannot do what needs to be done. We allow ourselves to adjust our goals, so we are now able to live with the problems. In the future, this creates a culture of inferior achievement in the organization, since goals are uniformly discredited and never truly pursued.

I saw this often when I worked as a personal trainer. I would meet a client and discuss their goals so we could create a training plan. Often, they arrive with a very specific picture in mind. For example, one client told me that she wanted Madonna's arms. This was in 2009 when Madonna was in excellent shape. So, we would start the training and perhaps the client does not see the results they want. Sometimes it is because they do not stick to the plan or a good diet. But whatever the reason, the goal begins to change. Instead of trying to look like their celebrity, they change their goal and choose to "just be healthy" or "not worry about their diet too much."

Businesses do the same thing. I worked at a financial investment firm once where a new system was going to be put in place. Word spread quickly that the company does this all the time. "Don't get too invested in what is happening. Everything will be back to normal in 6 months," they said. And it was. Instead of the improved system, they changed the goal to fit their level of commitment to the solution.

The way out of this archetype is to focus on the process, not the outcome. Ensure that proper Change Management activities have been put in place and set the goal to the process's performance. And if the process has been improved during a Six Sigma project, a fundamental solution, not a short-term fix, then your expected

outcome can be calculated. That is your goal, not some arbitrary number that leadership creates out of thin air.

15. Escalation is an archetype that can be found anytime there is strong competition in a marketplace. Each investment by Company A is seen as a threat by Company B, which in turn increases its own investment level. Company B's investment is seen as a threat by Company A...and the cycle continues. One company may win, but both may also lose.

During the Cold War, the United States and its allies were engaged in this pattern for decades against the Soviet Union and the eastern bloc countries. Each activity by one side – the development of a new weapon or technology, or a proxy war fought on someone else's soil, lead to greater investment in military power. Eventually, the economic strain in the Soviet Union caused their system to collapse. It is estimated that over \$8 trillion was spent by the US during this time (Wikipedia, Cold War, 2026).

The leverage for this archetype is found in differentiation. If these two countries had not engaged in this **tit for tat** exchange, they could have invested those trillions of dollars in science or healthcare or education for their countries, and I suspect the world would be a better place today.

Commented [TS10]: Tit for tat: Tit for tat is an English saying meaning "equivalent retaliation".

16. Success to the Successful describes the practice of rewarding teams based on results instead of needs. It seems counterintuitive, but companies often give more resources to teams that apparently do not need them.

In this scenario, we start with two teams that are each given a task. For reasons outside their control, Team A is more successful than

Team B. From then on, Team A is believed to be the better team, so the company treats them better. They are given better equipment, more important tasks, and additional resources. Team B, on the other hand, is not given proper resources or preferable projects and is not allowed to overcome their poor reputation. Therefore, all subsequent tasks will see that the successful Team A will continue to succeed while Team B continues to struggle. This archetype occurs when we forget that resources, support and sometimes luck help the successful get that way in the first place.

Companies find a way out of the archetype by using holistic measurements. Many process improvement methodologies have devised financial calculations to value their projects in relation to the resources they use. One such calculation is Return on Investment, or ROI. If you have one team that has a reputation of always returning a large benefit from projects, measure the benefit as it relates to the costs. You may find that the projects with smaller benefit provide a higher ROI.

17. Tragedy of the Commons describes how resources that are made available to everyone (the Commons) can be stressed to the point of breaking. The organization is unaware of the demands placed by so many on the Commons, so demands are left unchecked.

All companies have equipment and personnel that are shared by multiple functions. Six Sigma projects will share data analysts, executives will share assistants and office spaces, and engineers will share tools and equipment. Since no one completely owns these resources, no one takes full accountability for their

maintenance and well-being. They are not seen as permanent pieces of a department, but rather consumables that just go bad after a while. For example, I worked for an Indian company that relied heavily on complex business intelligence software to support client needs. However, there were only a handful of engineers who knew these systems well enough to set up and maintain for every project. I spoke with one individual who mentioned he was working more than 12 hours a day, 7 days a week. It was only a matter of time before burnout would cause him to leave the company.

Leverage is gained by understanding the system's view and seeing where demand can be alleviated. If this individual reported his time to one manager instead of several, they would see how much stress he was really under.

18. Fixes that Fail show how a symptomatic solution is chosen over a systemic solution, but this time there are unintended consequences that keep us from experiencing at least some palliative relief.

For years the tobacco industry steadfastly denied that there were any ill health effects from smoking, pouring vast amounts of money into advertising and a pattern of denials. The tactic served the industry well. However, each time it denied that smoking caused health problems, it stiffened the resolve of scientists, and research into the effects of smoking on health steadily grew. Ultimately, the amount of evidence grew so large that no amount of Public Relations or advertising could overcome the industry's claims.

The unintended consequence of our actions acerbates our initial problem, adding more problems and confusion to the situation.

Once again, solving the problem at the root cause and taking the proper steps for change management will always provide a better long-term solution to our issues.

19. Growth and Underinvestment is similar to Limits to Growth in that the organization is trying to grow without addressing the limiting factor. Without the investment needed, the company sees a drop in demand, which fuels the speculation that more investment is not needed.

I have a friend who inherited a business from his parents. From an early age he was asked to work after school, and it was always assumed that he would take it over when his parents retired. In the first few years as the sole manager, he was quite successful and enjoyed the financial benefits. But as equipment aged, competition mounted and the company decided against innovating, the quality of the product and facility started to steadily decline. My friend found side projects more exciting, and he eventually seeded management decisions to his own children, leaving them an aging business with mounting problems. If he had just made some minor investments in research and development when his company was succeeding, it would have been in a better position to overcome the new challenges. But instead, he asked himself, “why throw good money after bad,” and took gains from his company to invest in those side projects.

20. Accidental Adversaries evolve in much the same way that Escalation does, but it starts differently. In the beginning, there is no competition between the two companies. Then Company A does

something that Company B feels threatens their market share, so they feel inclined to retaliate.

One thing that sometimes gets overlooked is the psychology of process improvement. As a Six Sigma Black Belt, I have often been assigned projects that are not too popular. The project sponsor and champion have asked me to investigate a process that is not performing properly, but the process manager feels threatened. He has been trying his best for a long time and believes things are going just fine. Now, instead of working with me to improve his process, he actively works against me. The animosity he feels could have been avoided if the project sponsor had approached him first to make him a part of the solution. Companies find leverage by learning how actions are seen by others, and to recommit to shared ideals. One way forward is to use the Socratic method of instruction to make the manager believe he came up with the idea for the improvement himself.

21. Attractiveness Principle identifies a growing action that is subject to multiple slowing actions, each one representing an opportunity and an opportunity cost. Opportunity cost refers to the potential profit provided by a missed opportunity – the result of choosing one alternative to another. The manager must decide which one is the most attractive to pursue.

This archetype can be a real problem when trying to please important clients. The sales team believes that the customer wants a product at a lower price. The operation team thinks that the customer would be happiest if the product had a longer lifecycle or reduced repair costs. The design team wants to add new features

that they believe would delight the client. The project sponsor decides to throw their resources behind only one solution, and all the departments make their case that their idea should win.

The leverage is found when the manager realizes that many of these problems can be fixed at once if he finds the root cause and pursues a systemic fix instead of symptomatic one. A new feature, if designed for ease of production, could provide a higher quality product at a lower price.

22. Well, that wraps up our episode on Systems Thinking. I know this episode was a little long, so I appreciate you sticking with me. A copy of the transcript for this episode is available on our website at LeanEnglishConsulting.com. Leave a comment below and hit the like button if you enjoyed this episode. And as always, if you find that you need more in-depth process improvement or language training, send me an email or give me a call.

Thanks for listening. Until next time, be good and I'll talk to you later

Bibliography

- Braun, W. (2002). The System Archetypes. 26.
- Charles Webel, J. G. (2012). *Handbook of Peace and Conflict Studies*. Routledge.
- Lannon, C. P. (n.d.). Causal Loop Construction: The Basics. *The Systems Thinker* , <https://thesystemsthinker.com/causal-loop-construction-the-basics/>.
- Robichaud, A. (2025). *Exposing McKinsey & Company's Complicity in Corporate Malfeasance and Environmental Destruction*. LinkedIn.
- Senge, P. (2006). *The Fifth Discipline: The art and practice of the learning organization*. Random House Books.
- Wikipedia. (2025). *Archetype*. Retrieved from Wikipedia.org: <https://en.wikipedia.org/wiki/Archetype>
- Wikipedia. (2026, July 28). *Cold War*. Retrieved from Wikipedia.org: https://en.wikipedia.org/wiki/Cold_War