**Introduction to Systems Archetypes (and Generic Models)**

Systems archetypes are tools that capture common stories of dynamic behavior that repeat in diverse situations. Although others exist, these are particularly useful for the contexts in this book.

**Tragedy of the Commons**

When too many people exploit resources that are held in common, those resources are potentially used faster than they can regenerate (in the case of renewable resources) or disappear entirely (in the case of non-renewable resources). Example: As businesses open to serve both residents and tourists, it increases demand for services, which can put a strain on city infrastructure.

**Escalation**

Competition creates an “arms race” in which two entities regard the actions of the other as a threat. Example: Destructive behaviors among political parties can escalate as a way to maintain popularity and power.
Drifting Goals (also called Eroding Goals)
A fundamental solution for reaching a goal is ignored or changed because of pressure to lower the goal. Example: The further we are from reaching a desired level for CO$_2$ concentration, the more pressure exists to lower that goal.

**GENERIC ARCHETYPE**

- **Goal**
- **Pressure to lower goal**
- **Gap**
- **B’s activity**
- **Net gains for B**

**EXAMPLE**

- **Target for CO$_2$ concentration**
- **Pressure to lower goal**
- **Gap between target CO$_2$ concentration and actual concentration**
- **CO$_2$ in atmosphere**
- **Actions to reduce CO$_2$ in atmosphere**

Fixes that Fail/Unintended Consequences
An apparent solution to a problem causes unintended consequences that make the situation worse. Example: Strict incarceration policies can backfire, leading to even higher levels of crime.

**GENERIC ARCHETYPE**

- **Problem symptom**
- **Fix**
- **Unintended consequences**

**CRIME POLICIES THAT BACKFIRE**

- **Crime in society**
- **Strict incarceration policies**
- **Offenders missing assigned rehabilitation and prevention services**
Shifting the Burden
A strategy is used to treat symptoms with a short-term solution in place of choosing a fundamental solution. The more a short-term solution is used, the greater the side effect is, thus diminishing the use of the more fundamental solution. Example: Government may reduce services as community organizations try to help needy populations.

Limits to Growth (also called Limits to Success)
Growth can be rapid, building as a reinforcing loop. But encountering limiting factors will eventually create a balancing loop that dampens and even reverses the success. Example: Buildings that are not ready for solar panels can slow down a conversion to solar energy.

Success to the Successful
As one group is more successful than another, that group may receive more resources in comparison to another group that’s struggling with success. Example: The fossil fuel industry has received subsidies, possibly reducing or eliminating subsidies for renewable energy conversion.
Template: Tragedy of the Commons
Use the guide at right as you complete your own example of this archetype below. Create a title and tell the "story" that explains your example.

Title:_____________________________

Story:
Template: Escalation
Use the guide at right as you complete your own example of this archetype below. Create a title and tell the “story” that explains your example.

Title:_____________________________

Story:
Template: Drifting Goals
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Title: ________________________________

Story:

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Template: Fixes That Fail

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Title: ____________________________________

Story:

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Template: Shifting the Burden

Use the guide at right as you complete your own example of this archetype below. Create a title and tell the “story” that explains your example.

Title: ________________________________

Story:
**Template: Limits to Growth**
Use the guide at right as you complete your own example of this archetype below. Create a title and tell the “story” that explains your example.

Title: ______________________________

Story:

Template: Success to the Successful
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Story: