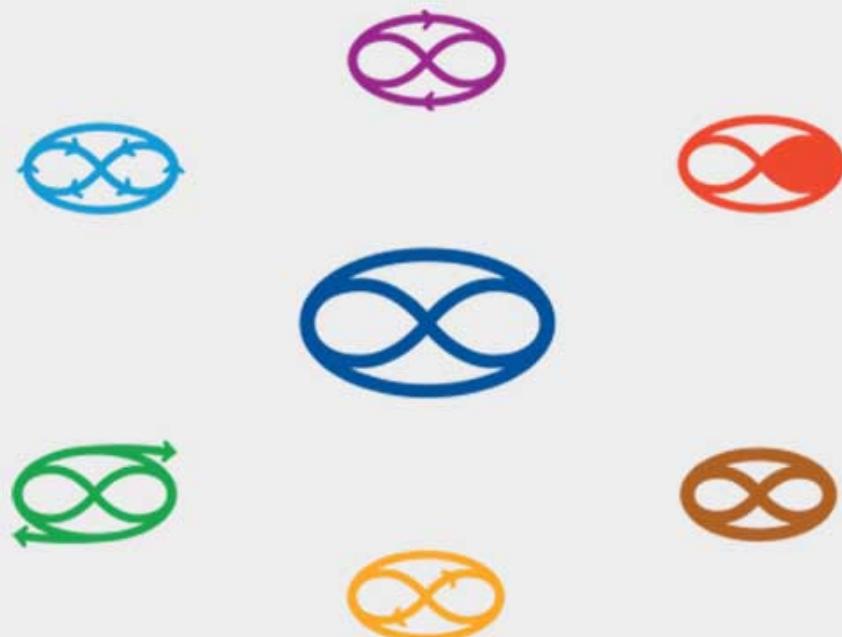




PatternDynamics™  
thrive in complexity

# PatternDynamics™ Level I Training Guide

Learn how the patterns of  
nature show us principles  
for creating systems that  
thrive



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# Welcome to PatternDynamics™ Level I

- This material provides an introduction to PatternDynamics™ Training.
- It will help you begin learning a systems thinking framework that assist with:
  - better decision making
  - improved complex problem solving
- And, we get you started quickly and easily with a systems thinking tool that can make an immediate difference for the ability of systems in your life, your work, and your world to thrive.



# Introduction to PatternDynamics™

**PatternDynamics™ is a pattern language for *creating systems that thrive*.**

- An intuitive systems language based on natural principles.
- A step by step framework for learning purpose-driven, collaborative systems thinking.
- A social technology for improving decision making and complex problem solving.
- A practice that forms the basis of a simple, but effective, operating system for individuals, groups, organisations, and businesses.
- A method for shifting organisations from a mechanistic operating structure to a living systems operating model.



# Benefits of Learning PatternDynamics™

- Helps you *create systems that thrive*.
- Improves understanding of organisational, social, and business systems.
- Facilitates organisational change at the systems level.
- Makes it easier to have difficult conversations.
- Shifts power and politics to a liberating new level.
- Improves decision making and complex problem solving.
- Facilitates the application of collective intelligence.



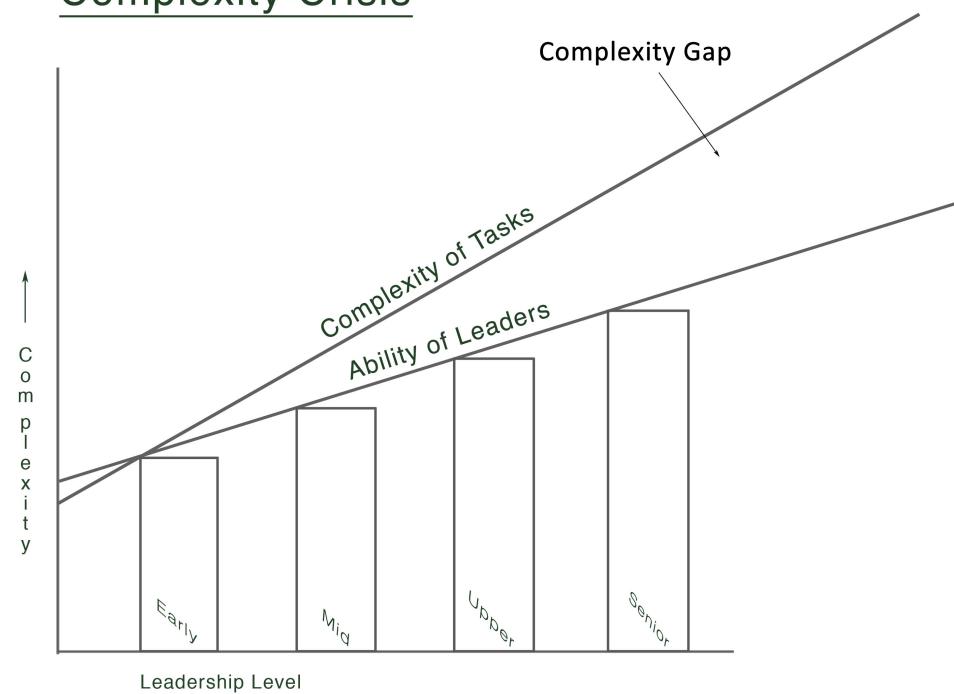
# The Challenge: Complexity

- Over 20 years working as a leader in sustainability initiatives.
- I struggled for years because I didn't have tools for making effective changes to complex systems.
- Then I discovered the power of collaborative systems thinking and developed the PatternDynamics™ framework.
- Now I have reliable method for working more effectively with complex challenges.
  - It is substantiated by high quality research.
  - It is very practical and I can introduce it to others.
  - I no longer feel isolated because now I have a way of communicating my systems perspective.



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## Complexity Crisis



Adapted from Lectica.org  
[https://dts.lectica.org/\\_about/showcase.php?instrument\\_id=LDMA](https://dts.lectica.org/_about/showcase.php?instrument_id=LDMA)

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# PatternDynamics™ System Overview v3.0

## Part I



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# Learning Outcomes

There are three levels of skill attainment at each level of PatternDynamics™ Training

- Familiarity: Where you can identify the relevant Patterns in your life, work, and world with reference to learning materials or support from more advanced practitioners.
- Competency: Where you can identify the relevant Patterns consistently in most situations without reference to learning materials or others.
- Fluency: Where you can identify and prioritise the level of importance of relevant Patterns consistently in all situations without reference or support, and communicate about your perspective effectively to different people in different contexts.

**This learning resource is designed to support the attainment of:**

- **Competency** in the use of the Source Pattern and its three dimensions.
- **Familiarity** with the other 6 First Order Patterns: Rhythm, Polarity, Structure, Exchange, Creativity, and Dynamics.



# Learning Method

Learning to think holistically about the dynamic patterns of organisation in systems requires a different type of learning practice. This is different to how we usually learn about the parts of those systems. In PatternDynamics™ training you will notice:

- a lot of repetition.
- a very similar pattern of explanation in each Pattern module.
- multiple closely related examples and ways of exploring each Pattern.

The reason for this is that learning to ‘see’ patterns of organisation in systems requires that we look at each one from multiple perspectives, in multiple contexts, and in a repeated fashion. The different types of learning content and practices that support this approach include:

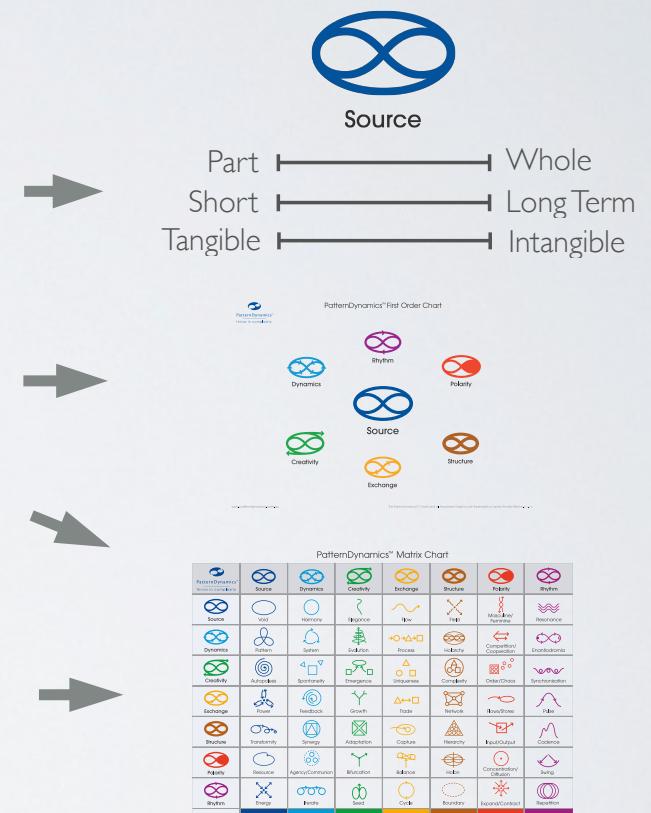
- written material
- videos
- graphic symbols and charts
- exercises to practice in everyday life and work
- examples of Patterns in different contexts
- embodies exercises that include movement and group practice



# Learning Design

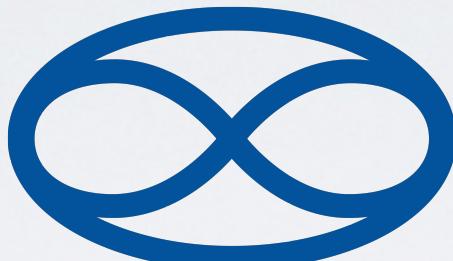
The PatternDynamics™ learning system (learning praxis) is designed to start simply and to build step by step towards more complex skills and understandings.

- Introduction: The Source Course
  - We get started by learning about Source, the most central Pattern in the PatternDynamics™ system, and how to apply it simply and easily to get immediate results in your own life.
- Level 1:
  - Then we move on to learn the other 6 First Order Patterns, which form Aspects of Source. This provides a foundation for systems thinking skills and applications.
- Level 2:
  - Next we learn the 49 Second Order Patterns and how to use them as an integrated system for more advanced systems thinking and to help others learn introductory PatternDynamics™ skills.
- Level 3:
  - The final stage helps practitioners to use the total system of 56 Patterns, to craft their application effectively for different contexts, and to use them fluently to support the development of systems thinking skills in others such as decision making and complex problem solving.



# The Source Course:

Getting Started with PatternDynamics™



Source



## Principle:

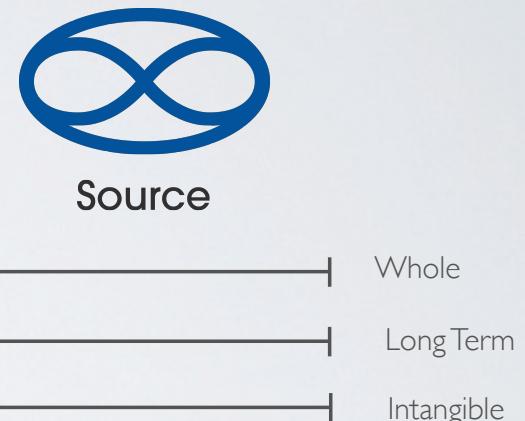
“Source Code”: the collective awareness of identity and purpose.

- the most central and important source of any system’s self-organising capacity.



# Recommendations

- Get in the habit of trying to identify the purpose (Source) of issues that arise in your life and work.
- Regularly evaluate the effects of how you and others are thinking about these issues in terms of the three dimensions of Source.
  - Draw the Source Pattern on a piece of paper or a white board and place the three sliders under it. Label them:
    - Part/Whole
    - Short Term/Long Term
    - Tangible/Intangible
  - Mark where you think your perspective lies on each slider. Make this a regular habit and reflect on how it changes your thinking about issues that arise and your ability to communicate how you feel about them.
    - Reflection through journalling, blogging, or other writing will be particularly effective.



# PatternDynamics™ Decision Making Practice

Learning the meaning of the Patterns provides the central **content** of PatternDynamics™ applications. There are multiple possibilities for the application of PatternDynamics™ content. Two foundation applications are to decision making and complex problem solving. Applications like this form the **process** components of PatternDynamics™ practice. We will progressively outline the initial components of the PatternDynamics™ Decision Making methodology below:

- **Perspective Mapping**

- The practice of identifying the Patterns in relation to different perspectives on issues and evaluating where they fall on a continuum of their expression.
- For instance this is what you are doing when you use the Source Course practice. Although we did not make it explicit in the course, what you are actually doing when you place markers on the sliders is mapping a perspective by identifying it and drawing a representation (or a map) of how it is expressed.



Source



# PatternDynamics™ Decision Making Practice

## Decision Making Step 1

- **Source Tracking**
  - Checking to see if the issue is related strongly enough to the ultimate purpose or Source of your group or organisation to merit continued decision making effort.
- Perspective Mapping
- **Perspective Coordination**
  - Undertaking reflective thinking or conversations about mapped perspectives (points of view) with an attitude of curiosity and inquiry in order to discover what each perspective is contributing to a more wholistic picture.

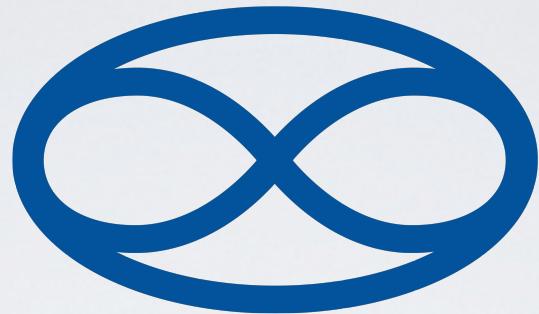


# PatternDynamics™ Decision Making Practice

## Decision Making Step 2

- **Tension Sensing**
  - Becoming skilled at sensing when an important issue is emerging in an unfolding situation.
    - Can be sensed using our bodily sensations, emotional states, mental activity, and intuition.
  - Source Tracking
  - Perspective Mapping
  - Perspective Coordination
- **Systems Thinking**
  - Using the 7 First Order Patterns in the PatternDynamics™ Framework to identify multiple patterns of organisation in a given situation and then use these perspectives as additional perspectives to coordinate.





# Source

The Origin of Order



'Source' represents the 'drive to thrive'.



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## 'Source' represents the 'drive to thrive'

In the PatternDynamics™ framework Source is the foundational, universal pattern of self-organisation at the heart of all systems.

Each and every system in the universe is a unique expression of Source.

More specifically Source signifies the quality of the collective awareness of the expression of a given system's unique identity and purpose—or what could be thought of as the ongoing evolution of its 'source code'—and how that awareness affects the strength of its self-organising capacity.

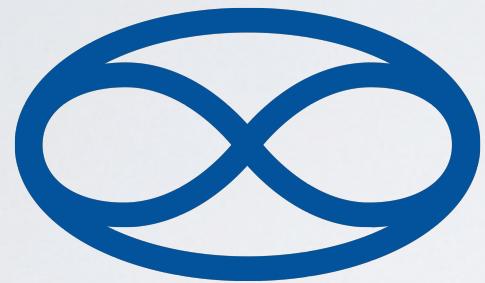
When awareness of a system's identity and purpose is co-created, widespread, clear, and present, the parts of that system can better identify and commit to aligned roles that strengthen that system's core self-organising pattern, or Source.

All systems in nature have clear patterns that form the same atoms, molecules and cells into different dynamic, self-organising entities. For instance, biological systems as diverse as various types of plants, animals, and even whole ecosystems all have distinct identities and roles that evolve over time to adapt successfully to changing circumstances.



- How does the evolution of a system's role or purpose affect the organization of the parts of that system?
- Think about what it means when an organization makes changes to its source code—its core identity and purpose, and therefore its role within the greater scheme of things.
- How does this affect the awareness of what the organization is, who it attracts, and their level of commitment? If it is a radical change, will members still identify strongly enough with the organization to participate fully and effectively?
- Will its clients and suppliers?
- If an organization does not change at all, will it remain relevant as things change around it?
- Have you been part of a group response to an emergency?
- What was the strength of the collective awareness of the identity and purpose of that group?
- How did it affect self-organizing capacity?
- How could you balance Source or integrate it more fully into a system in your life to improve how it is organized?





Source

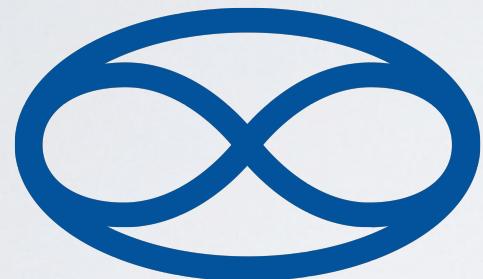
## Elements

- Description
- Pattern
- Definition
- Principle
- Aspect



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## Source



## Description

Significance: The Source Pattern represents the *quality of the collective awareness* of the ongoing evolution that forms a system's essential nature, or source code.

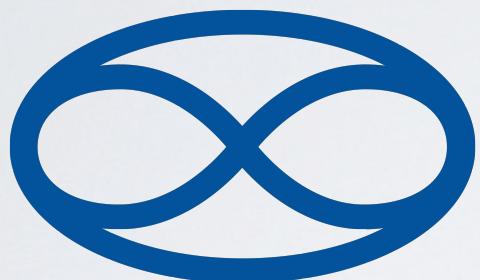
Role: The role of Source is to serve as the core collective inquiry process that generates awareness of the ongoing expressions of a system's essential nature: "What is the origin and evolution our identity and purpose?"

Effect: Source demonstrates the power of collective inquiry to generate awareness that strengthens the self-organising drive all systems have to co-create the conditions that allow them to thrive.

Balance: Source must be balanced so that, on the one hand, a strong connection is maintained to the origin of a system's identity and purpose; but, on the other hand, a strong inquiry is maintained that allows that same identity and purpose to evolve in a way that helps it thrive under changing circumstances.

# Pattern

The Source Pattern signifies the three primordial dimensions of Source as an ongoing inquiry.



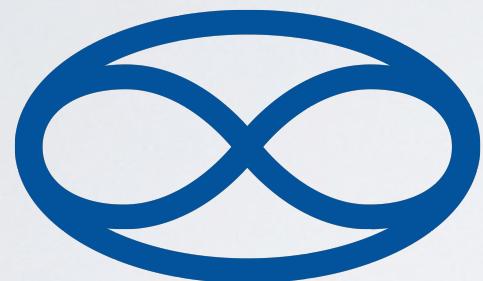
Source



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- The Part and the Whole: The two inner shapes denote ‘parts’ that are encompassed by the larger oval into a ‘whole’ system.
  - “What is the effect on the part vs the whole?”
- The Short Term and the Long Term: The figure of eight shape represents the infinity of the unfolding of time while the encompassing oval signifies the shorter cycles within it.
  - “What is the effect on the short term vs the long term?”
- The Tangible and the Intangible: The lines of the Pattern represent the easily seen, tangible aspects of systems while the white spaces in and around the lines signify the less tangible spaces that define them.
  - “What is the effect on the tangible vs the intangible?”

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# Source

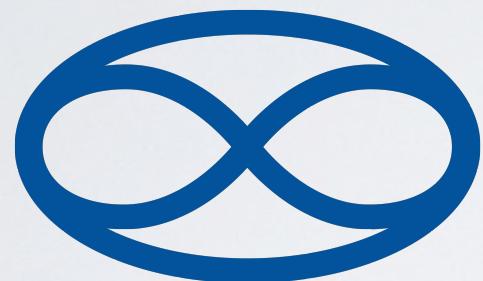
## Definition

Source is the most foundational Pattern: the quality of awareness of the origin and evolution of a systems identity and purpose.



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Source



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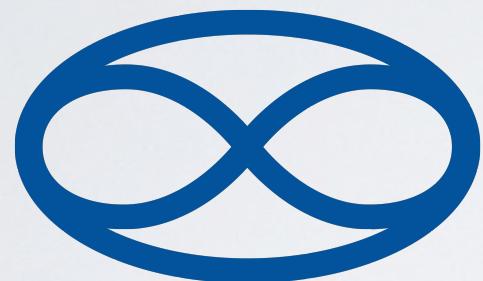
## Principle

### The principle of unity:

The enduring health and evolution of any system depends on the appropriate balance and integration of:

- The connection of a system to its origin of identity and purpose with the need for its ongoing evolution, *for a given context*.

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Source

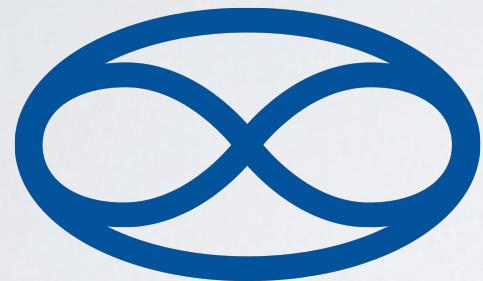
## Composition

The Source Pattern signifies the primordial origin and ongoing evolution of order. All other Patterns represent different aspects of Source.



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Source

## Examples

Nature: Organisms, Ecosystems, and Biosphere

- Organism
- Ecosystem

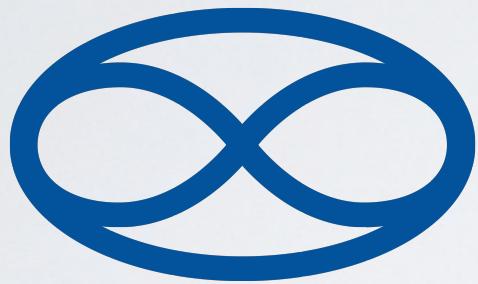
Culture: Individuals, Organizations, and Socio/Economic Systems

- Organizations
- Socio-Economic Systems



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Source



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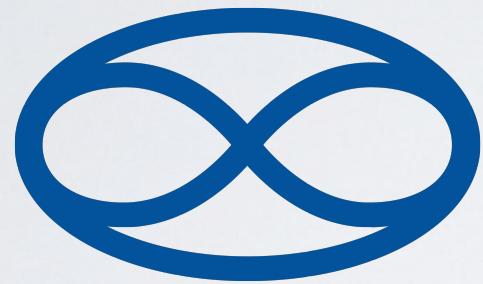
## Examples

Nature: Organisms, Ecosystems, and Biosphere

Organism: The first complex (eukaryotic) cells evolved as a new pattern of organization of already existing simpler (prokaryotic) cells and bacteria. The purpose of this new symbiosis was to create a system in which each of the elements does better as part of the system than as a lone individual. Within the identity of the eukaryotic cell some of the bacteria adapted to become the power plants (mitochondria) and some adapted to become organelles that capture sunlight and convert it into chemical energy (chloroplasts).

*Inquiry:* How did the co-creation of the eukaryotic cell system help create the conditions for its elements to thrive? Did this evolution of the cell pattern contribute to the greater ability of the biosphere, as a whole, to thrive and evolve?

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Source



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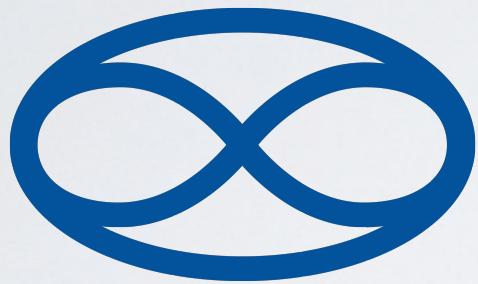
## Examples

Nature: Organisms, Ecosystems, and Biosphere

Ecosystem: Lichen colonies are formed through a symbiotic relationship between fungi and green algae. Both a fungus and an alga have different patterns of organisation as independent organisms. When in relationship their joint form is distinct and identifiable as a lichen. Through the symbiotic organisation of the lichen form they are able to colonize harsh environments like desert where they exude compounds that stabilize the shifting sands so seeds of higher plants can germinate. If conditions are suitable the 'parts' of the lichen system may revert to their original identities as fungi and algae respectively.

*Inquiry:* How does the co-creation of the lichen pattern of organization create the conditions for other organisms to build a more complex ecological system?

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Source

## Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Organizations: The clear identity and purpose of an organic farming operation is to farm without harmful chemicals so that it may provide healthy food, nurture healthy soils, and sustain ecosystems. Its clear identity and purpose and its suitability for repairing degraded environmental conditions has assisted organics to become one of the fastest growing industries on the planet.

*Inquiry:* Has the identity and purpose of the organics industry evolved since its inception? If so how has this affected different types of consumers in the organics industry?



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Source



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## Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Socio-Economic Systems: A community credit union lends money to and takes deposits from local people and businesses only, clearly contrasting it with the identity and purpose of commercial banks which operate a much wider range of financial services over much larger geographical areas. The dilution of larger banking institutions' identities and purposes as they diversified into insurance and the brokering of financial derivatives has fuelled their short term growth, but may have made them unstable, undermining their long term viability.

*Inquiry:* Is there a relationship between the radical changes in the identity and purpose of some larger banking institutions and the behaviour by individuals within them that has destabilized them?

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# Source

Evolution | Origin



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**Life:** Integral Theory

- How is it now?
- How could you adjust it?

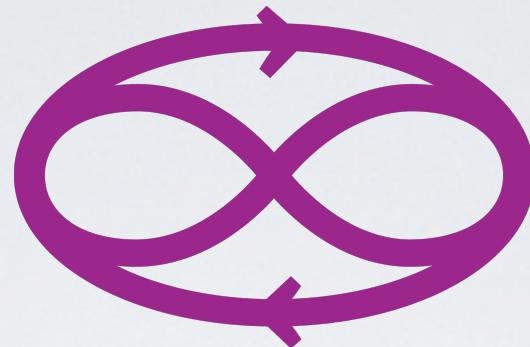
**Work:** PatternDynamics

- How is it now?
- How could you adjust it?

**World:** Agriculture

- How is it now?
- How could we adjust it?

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# Rhythm

Repetitions in Time



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‘Rhythm’ signifies the waves and cycles of a system

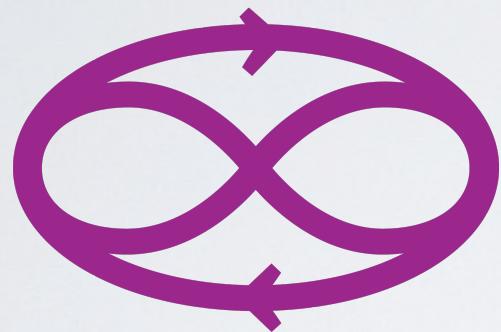
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# 'Rhythm' represents the waves and cycles of a system.

All natural systems have regular repetitions and cycles that order events over time. The most important ecological cycle is the annual changing of the seasons caused by the tilt in the earth's axis relative to the plane of its orbit around the sun. The moon causes ocean tides to ebb and flow with a complex monthly rhythm. This rhythm is in turn overlaid with the pulse of waves caused by the wind. Both the seasons and the tides coordinate biological activities, fertility cycles, resource pulses, and a host of other natural rhythms.

- What role do rhythms play within a system?
- Think about how having holidays at irregular and random times from year to year would affect the organization of your workplace.
- What would happen if there was never any variation to the routine?
- Does your household function better when your family's weekly routine is regular and uninterrupted?
- How could you balance an existing Rhythm or integrate a new one into a system in your life to improve how it is organized?
- How do rhythms serve to coordinate systems?





# Rhythm

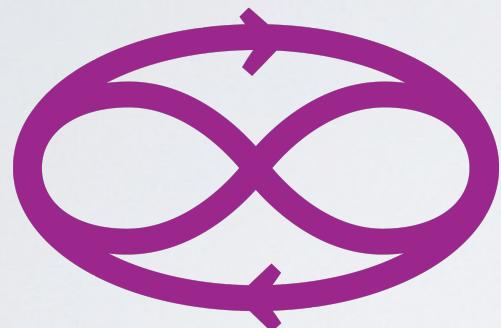
## Elements

- Description
- Pattern
- Definition
- Principle
- Aspect



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## Rhythm

### Description

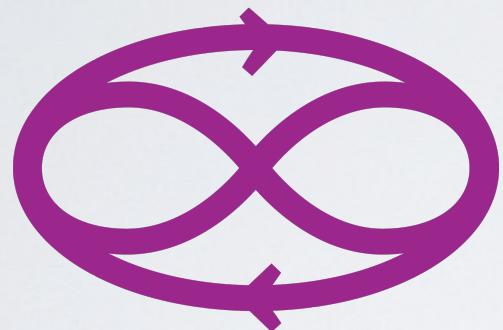
Significance: The Rhythm Pattern represents the repetitions, swings, pulses, synchronizations and other regularities of processes that characterize a system's unfolding in time.

Role: The role of Rhythm is to coordinate elements and events in time.

Effect: Rhythm demonstrates the effectiveness of regular patterns in time that assist elements of a system to engage in coordinated processes.

Balance: Rhythms must be balanced so that, on the one hand, their regularity does not become fixed, which may cause problems if conditions require change; or, on the other hand, change too often or too quickly, which can pose unnecessary or costly adaptive challenges for the rest of the system.





Rhythm

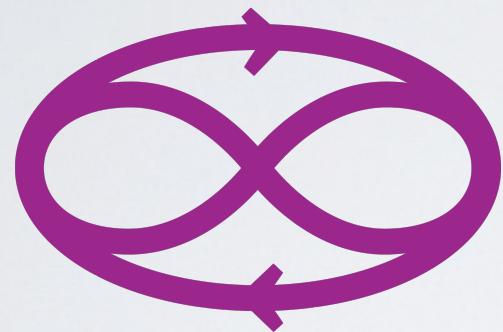
## Pattern

The arrows represent regular rhythmic processes through time. The two inner shapes denote 'parts' that are encompassed by the larger oval into a 'whole' system. This basic part/whole configuration indicates the role of Rhythm as an Aspect of Source.



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# Rhythm

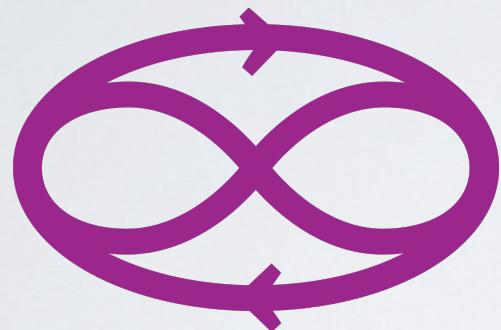
## Definition

The temporal regularities of form.



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# Rhythm

## Principle

### The principle of good timing:

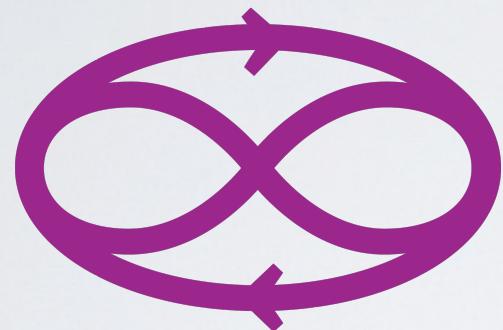
The enduring health and evolution of any system depends on the appropriate balance and integration of:

- the coordinating power of temporal regularities with the requirement for adapting Rhythms as conditions change,  
*for a given context.*



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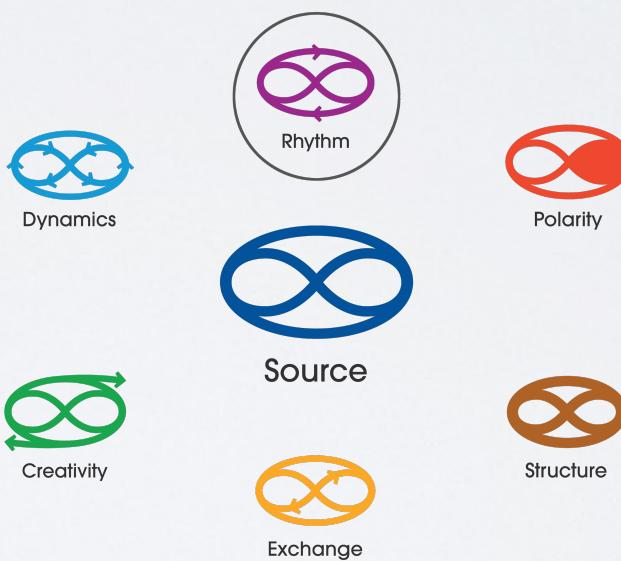
Rhythm



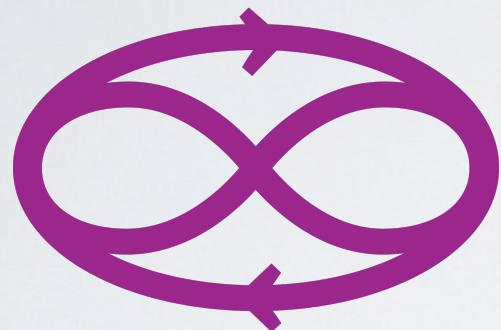
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## Aspect

Rhythm is one of 7 primary Aspects of Source, the most foundational Pattern in the PatternDynamics™ framework.



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## Rhythm

### Examples

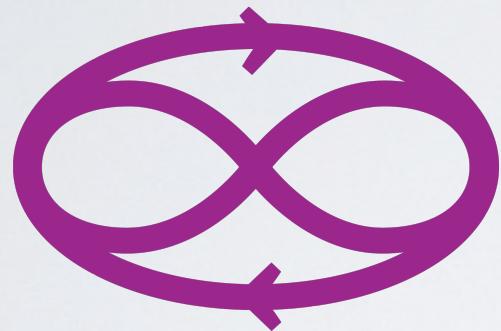
Nature: Organisms, Ecosystems, and Biosphere

- Organism
- Ecosystem

Culture: Individuals, Organizations, and Socio/Economic Systems

- Organizations
- Socio-Economic Systems





## Rhythm

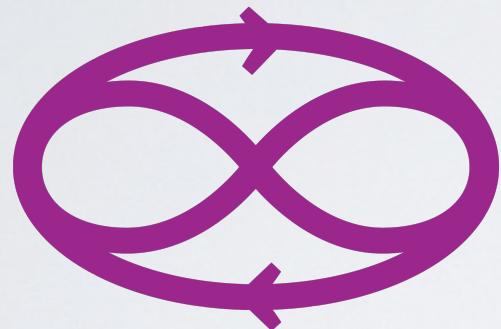
### Examples

Nature: Organisms, Ecosystems, and Biosphere

Organism: All life forms have rhythms of activity that vary in order to support the health of that organism. Respiration in animals is a good example of a Rhythm that serves to coordinate the activity of the entire organism in order to keep it healthy. If the Rhythm of respiration is too slow the animal will not have enough oxygen to drive metabolic processes, but if it is too fast it may cause hyperventilation – the loss of too much carbon dioxide from the blood and a resultant loss of blood pressure.

*Inquiry:* What would happen to an organism that was being pursued by a predator if it did not increase its rate of respiration as it increased its physical activity to escape?





Rhythm

## Examples

Nature: Organisms, Ecosystems, and Biosphere

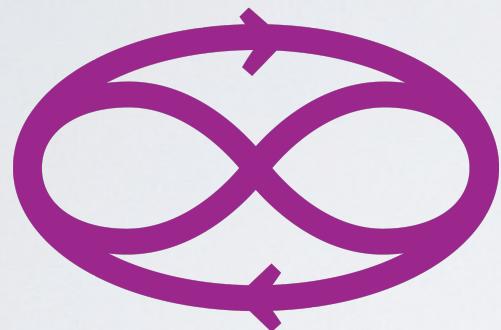
Ecosystem: Humans have intervened in natural forest fire cycles by introducing smaller, but more frequent fires. This keeps the fuel load from building up to the point where there are large, but infrequent, hot fires that may destroy property. Changing the Rhythm of fire frequency has other wider effects on the ecosystem, including changing species composition of both plants and animals, altering soil conditions and changing predator/prey relationships.

*Inquiry:* If fire Rhythms are changed from erratic natural fire frequencies and sizes to more regular and smaller burns managed by humans, could this change the amount of total soil carbon?



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## Rhythm

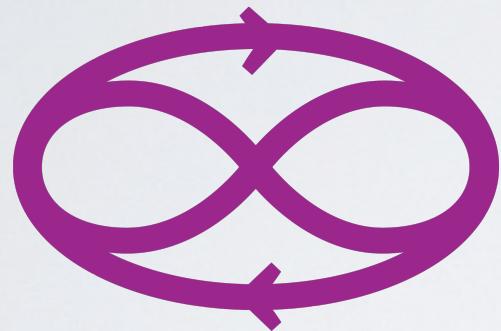
### Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Organizations: Businesses have financial reporting cycles that influence rhythms within the business like capital expenditures, investment strategies, and wage level adjustments. In most cases annual reporting is sufficient, but if a business is undergoing a period of rapid growth or change it may be necessary to do more frequent financial analysis in order to keep the business healthy.

*Inquiry:* What effects might it have on a business if business conditions remain the same, but it diminishes the regularity of its financial reporting?





Rhythm

## Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

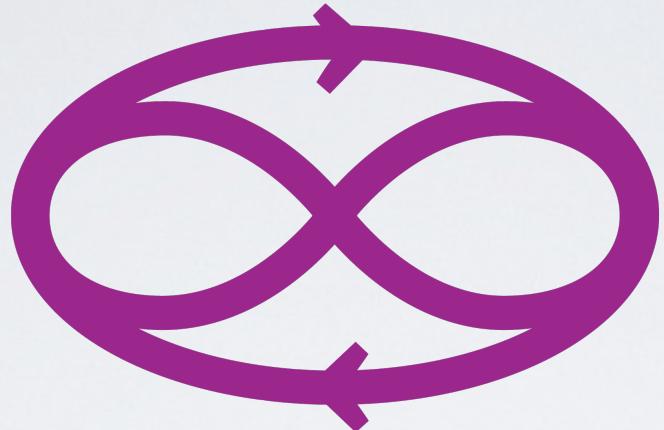
Socio-Economic Systems: All scales of financial economies throughout history have displayed extremities and irregularities in their levels of activity that have posed challenges for the sustainability of those economies. This is referred to as a 'boom and bust' dynamic. Governments and financial institutions regularly intervene to try and moderate extreme swings in financial activities and to introduce more reliability into the rhythms of financial markets.

*Inquiry:* Is it possible to mitigate the extremities of the boom and bust cycle in financial economies thought adjusting fiscal and monetary policy?



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# Rhythm

Change



Same

## **Life:** Sleep

- How is it now?
- How could you adjust it?

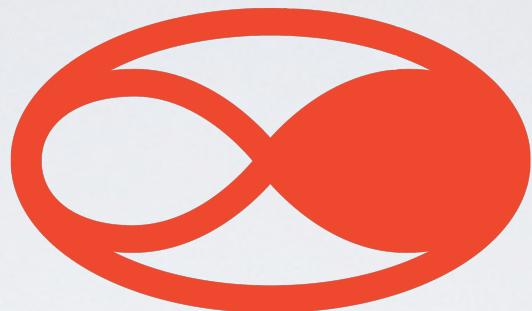
## **Work:** Meetings

- How is it now?
- How could you adjust it?

## **World:** News Cycle

- How is it now?
- How could we adjust it?





# Polarity

Integration of Opposites



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'Polarity' signifies the relationship between opposites.

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# 'Polarity' represents the relationship between opposites.

All natural systems have opposing elements and dynamics that are really just two sides of one thing. Growth and decay in biological systems are two interdependent aspects of the cycle of life. Although they seem like opposing processes, one cannot exist without the other. They are necessary compliments.

- What role do polarities play within systems?
- Think about what your workplace would be like if everyone spent all their time communicating and no time actually acting to get things done.
- Think also about the opposite scenario where only action was prioritized and no one communicated to anyone else.
- How does the more masculine drive to get things done interact with the more feminine tendency to discuss how that should happen?
- Does an organisation that needs to make a big decision about its future direction need to prioritize a more masculine or a more feminine approach?
- How could you balance an existing Polarity or integrate a new one into a system in your life to improve it?
- How do polarities serve to coordinate systems?





Polarity

## Elements

- Description
- Pattern
- Definition
- Principle
- Aspect



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## Polarity

### Description

Significance: The Polarity Pattern represents opposing forces as two ends of a continuum in dynamic interplay.

Role: The role of Polarity is to build and liberate the potential within systems.

Effect: The relationship between polarities stores potential and their integration liberates energies that drive the activity of systems.

Balance: On the one hand, Polarities must be integrated to take advantage of both approaches, but, on the other hand, they must also be maintained to build potential.



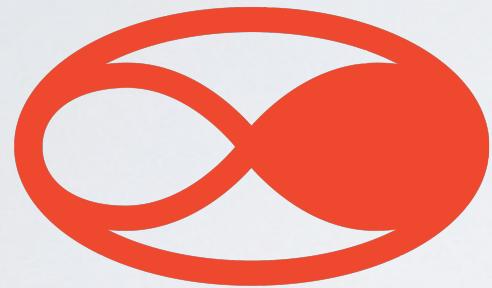


## Polarity

## Pattern

The dark coloured shape on the right, joined to the mirror image light coloured shape on the left, demonstrates a relationship between seeming opposing elements. The two inner shapes represent 'parts' which are encompassed by the larger oval into a 'whole' system. This basic part/whole configuration indicates the role of Polarity as an Aspect of Source.





Polarity

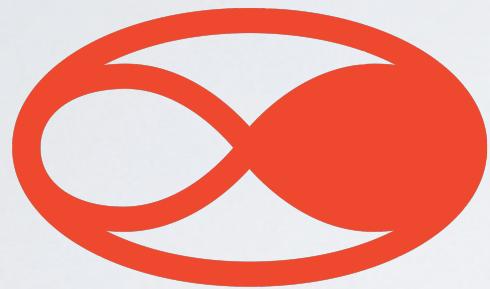
## Definition

The interplay of opposites within a system.



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## Polarity

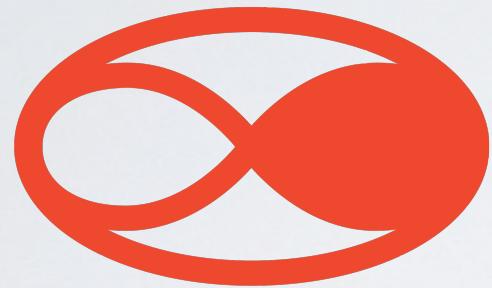
## Principle

The principle of paradox:

The enduring health and evolution of any system depends on the appropriate balance and integration of:

- the interplay of opposing dynamics, *for a given context.*





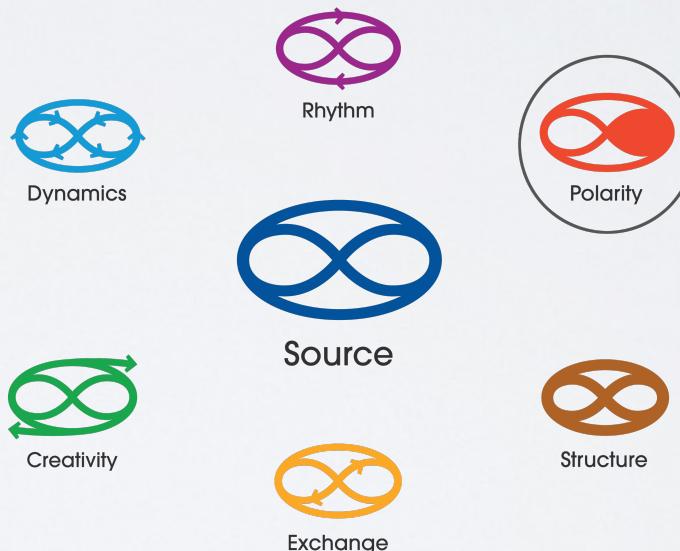
Polarity



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## Aspect

The Polarity Pattern is one of 7 primary Aspects of Source, the most foundational Pattern in the PatternDynamics™ framework.



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## Polarity

### Examples

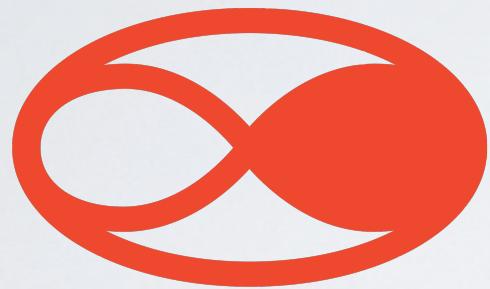
Nature: Organisms, Ecosystems, and Biosphere

- Organism
- Ecosystem

Culture: Individuals, Organizations, and Socio/Economic Systems

- Organizations
- Socio-Economic Systems





## Polarity

## Examples

Nature: Organisms, Ecosystems, and Biosphere

Organism: All organisms must balance the relationship between inputs to their system and the outputs from their system. If an organism is growing then its inputs of nutrients need to exceed its output of wastes. If conditions change in the environment and nutrients for that organism become scarce it must then adjust so that outputs exceed inputs, allowing it to shrink and survive.

*Inquiry:* What will happen to an organism that continues in a growth mode with high inputs as resources become scarcer?





## Polarity

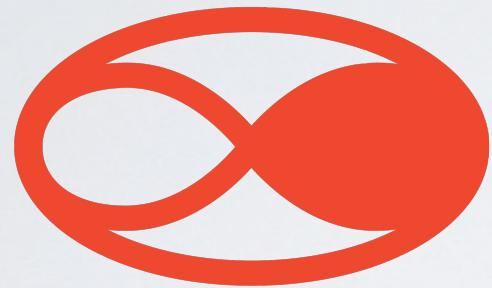
## Examples

Nature: Organisms, Ecosystems, and Biosphere

Ecosystem: The interplay between periods of orderly growth and the chaotic bush fires in northern boreal forests is a major planetary regulator of oxygen levels, and by extension the maintenance of atmospheric conditions favourable to life. If the forests do not burn when oxygen levels become high then less fire adapted ecosystems will ignite. If boreal forests were to continue to burn when oxygen levels are low some organisms may struggle to respire.

*Inquiry:* What happens to the potential energy that can be released during a burn as the time between burns increases?





## Polarity

# Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Organization: The interplay between the more *feminine* capacity for connection and relationship and the more *masculine* capacity for individuality and achievement provides a potential within an organization for outcomes not able to be attained by either extreme of the polarity alone. A relational approach facilitates good communications and good decision making, but a capacity for achievement is necessary to enact the decisions made through those good communications.

*Inquiry:* Under what circumstances could getting 'stuck' in a time consuming relational mode of operating become a problem?





## Polarity

## Examples

Culture: Individuals, Organisations, and Socio/Economic Systems

Economy: The economy is potentiated by the dynamic relationship between cooperation within enterprises and competition with outside rivals. Competition leads to productivity and efficiency gains, but unless it is integrated with cooperation it may become a negative force, creating hyper-individualism and social breakdown. Cooperation creates synergies, but unless it is integrated with competition it leads to a loss of drive by high performing individuals necessary for a strong economy.

*Inquiry:* Can you think of some examples of the interplay of competition and cooperation in professional sporting competition industries.





# Polarity

Integrated

Maintained

## **Life:** Goals vs Collaboration

- How is it now?
- How could you adjust it?

## **Work:** Income vs Set Up

- How is it now?
- How could you adjust it?

## **World:** Open vs Closed

- How is it now?
- How could we adjust it?





# Structure

Enduring Frameworks



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‘Structure’ represents the bones of a system.

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# ‘Structure’ represents bones of the system.

All natural systems have frameworks that provide relatively fixed and unchanging support structures for more dynamic aspects of the system. Forests are based on the tall, enduring biological structure of trees. Higher animals have strong bone skeletons and lower animals like insects have rigid exoskeletons. Even relatively soft biological cells have cytoskeletons that maintain their structural integrity.

- What role do structures play within a system?
- Think about what an organization would be like if its legal frameworks changed frequently or were removed altogether.
- Think also about what it would be like if these legal frameworks never changed and remained the same now as they were hundreds of years ago.
- How do unwritten, but well understood, codes of behaviour provide stability within families?
- When do these sorts of structures start to cause problems?
- How could you balance an existing Structure or integrate a new one into a system in your life to improve how it is organized?
- How do structures serve to organize systems?





## Structure

## Elements

- Description
- Pattern
- Definition
- Principle
- Aspect





## Structure

### Description

Significance: The Structure Pattern represents the solid, relatively unchanging, frameworks, scaffolding or 'bones' of a system.

Role: The role of Structure is to support the more active and changeable aspects of systems.

Effect: Structure demonstrates the effectiveness of having enduring frameworks that support the more dynamic aspects of systems.

Balance: Structural frameworks, on the one hand, must be the most solid, unchanging, and enduring aspects of a system, but, on the other hand, they must also have some capacity for ready, if limited, flexibility.





## Structure



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## Pattern

The thick amber coloured lines represent the solid and relatively fixed nature of structures and frameworks. The two inner shapes represent 'parts' that are encompassed by the larger oval into a 'whole' system. This basic part/whole configuration indicates the role of Structure as an Aspect of Source.

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## Structure

### Definition

The enduring frameworks of systems.



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## Structure

## Principle

The principle of effective frameworks:

The enduring health and evolution of any system depends on the appropriate balance and integration of:

- the structural capacity for rigidity with the ability for appropriate, if limited, flexibility, *for a given context.*





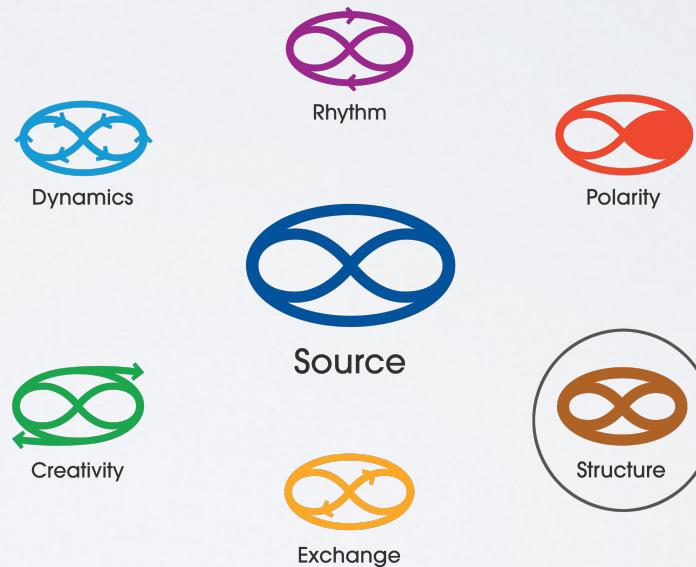
## Structure



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## Aspect

Structure is one of the 7 primary Aspects of Source, the most foundational Pattern in the PatternDynamics™ framework.



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## Structure

### Examples

Nature: Organisms, Ecosystems, and Biosphere

- Organism
- Ecosystem

Culture: Individuals, Organizations, and Socio/Economic Systems

- Organizations
- Socio-Economic Systems





## Structure

## Examples

Nature: Organisms, Ecosystems, and Biosphere

Organism: All higher animals have interior structural frameworks called skeletons. Their job is to provide support for the rest of the components of the body. If the bones of a creature's skeleton become too brittle and lose all flexibility, they may break too easily. If bones are too flexible and soft they will not be able to support the weight of the other elements of the body.

*Inquiry*: Is it a problem when bones lack an ability to flex enough to absorb and adjust to everyday stresses?





## Structure

## Examples

Nature: Organisms, Ecosystems, and Biosphere

Ecosystem: Mangrove trees are the central structural element in tidal wetlands. They hold the shifting sands and sediments in place with their multi-stalked aerial root systems. Mangrove trees have evolved to provide enough structure to hold the more mobile components of the ecosystem in place, but they are not so rigid that they cannot flex in high winds or with tidal currents.

*Inquiry:* If Mangrove trees had more brittle stalks what might be the consequence for fish populations?





## Structure

## Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Organisation: Companies are governed by organisational structures called constitutions. These documents provide the enduring framework of rules and regulations that shareholders, directors and executives agree to follow in participating in the dynamic operation of the business. If the corporate constitution changes too frequently or radically it may undermine the integrity of the agreements that allow people to work together effectively. If it is too rigid and does not possess the capacity for reasonable exceptions or small adjustments over time, the business may not be able to adapt to changing circumstances.

*Inquiry:* Should it generally be easy or hard to make changes to a company's constitution?





## Structure

## Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Economy: All modern economies measure the level and success of their activities through financial frameworks called accounting systems. If accounting structures are changed arbitrarily or without good reason, it can lead to inaccurate financial reporting, misallocation of resources, and fraud. If accounting frameworks are too static and they are not changed at all over time, they may become irrelevant in an evolving economy.

*Inquiry*: Have some more radical changes to accounting standards caused problems in the past?





# Structure

Flexible | Fixed

## **Life:** My Daily Routine

- How is it now?
- How could you adjust it?

## **Work:** Partnership Agreement

- How is it now?
- How could you adjust it?

## **World:** Financial Systems

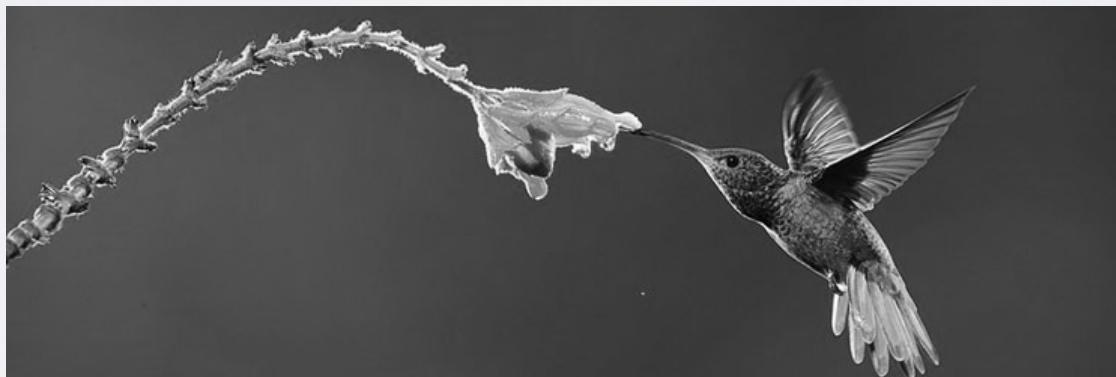
- How is it now?
- How could we adjust it?





# Exchange

Specialization and Trade



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‘Exchange’ signifies the productive capacity of systems.

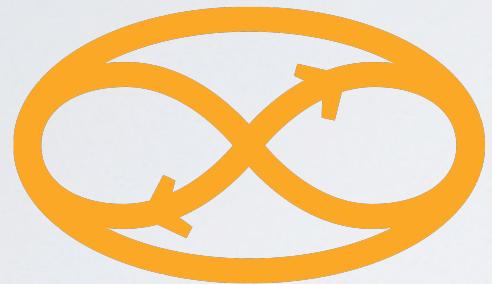
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# 'Exchange' signifies the productive capacity of systems.

All natural systems have productive processes driven by specialized elements exchanging energy and materials with each other. Flowers distribute nectar as a natural energy product in an exchange with insects and animals that do the work of distributing the plant's pollen. This is a more efficient and therefore more productive outcome than if the flower had to organize its own pollination and the insects and animals had to photosynthesize their own sugars from sunlight energy.

- What role do exchanges play within a system?
- Think about what an organisation would be like if it did not have a unique role within the economy that allowed it to create products or services competitively so as to become a desirable trading partner.
- What would a business be like that tried to be an extreme generalist and work in a multitude of unrelated industries?
- Alternatively, what would it be like to be so highly specialized that your role was only infrequently required within an organisation?
- How do you choose the appropriate level of specialization? How does trade amongst specialists make everybody better off?
- How could you balance an existing Exchange or integrate a new one into a system in your life to improve how it is organised?
- How do exchanges serve to coordinate systems?





# Exchange

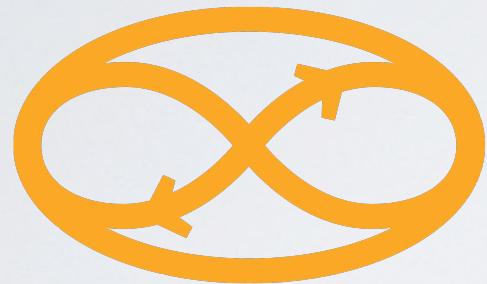
## Elements

- Description
- Pattern
- Definition
- Principle
- Aspect



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## Exchange



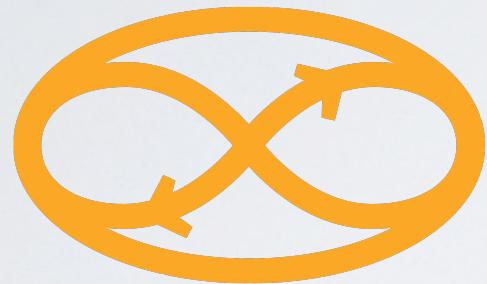
### Description

Significance: The Exchange Pattern represents the material, energetic and informational trades made between specialized elements of a system.

Role: The role of Exchange is to provide the production and efficiency gains of systems.

Effect: Exchanges between elements with unique capabilities demonstrates the productivity and efficiency gains of systems that allows them to outcompete any group of non-specialized, non-trading elements.

Balance: Exchanges must be balanced so that, one the one hand, elements within a system specialize enough that through trade the system gains a competitive advantage; but, on the other hand, elements retain the ability to cover off more than one function so as to ensure resilience.



## Exchange

### Pattern

The opposing arrows represent the trade or exchange of resources between elements of a system. The two inner shapes represent 'parts' that are encompassed by the larger oval into a 'whole' system. This basic part/whole configuration indicates the role of Exchange as an Aspect of Source.





## Exchange

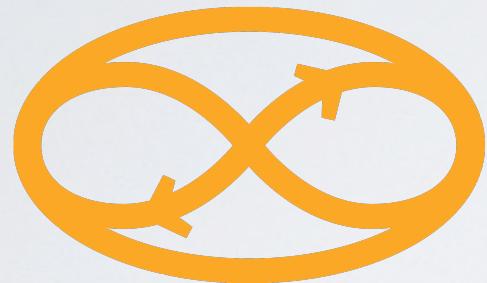
### Definition

The productive capacity of systems.



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## Exchange

## Principle

### The principle of productivity:

The enduring health and evolution of any system depends on the appropriate balance and integration of:

- the degree of specialization by elements of a system with the requirement for the more generalized function supporting resilience, *for a given context.*





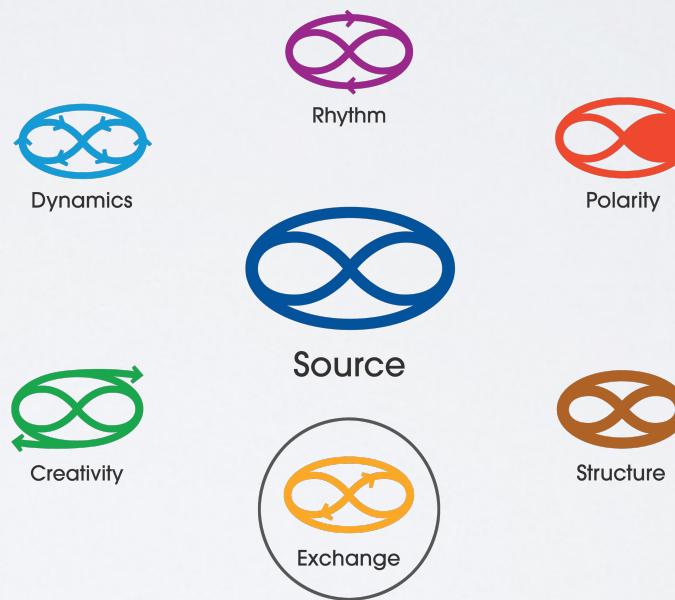
## Exchange



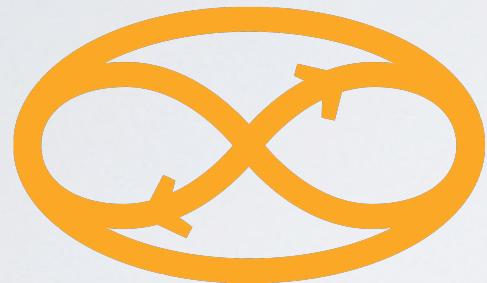
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## Aspect

Exchange is one of 7 primary Aspects of Source, the most foundational Pattern in the PatternDynamics™ framework.



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## Exchange

### Examples

Nature: Organisms, Ecosystems, and Biosphere

- Organism
- Ecosystem

Culture: Individuals, Organizations, and Socio/Economic Systems

- Organizations
- Socio-Economic Systems





## Exchange



## Examples

Nature: Organisms, Ecosystems, and Biosphere

Organism: The major organs, which act as sub systems within animals' bodies, specialize in unique capacities: hormone regulation by the endocrine system, filtration by the kidneys, pumping blood by the heart, and gaseous interchange by the lungs—to name but a few. Organs have evolved specializations that allow them to enter into relational exchanges as part of a greater system, but many are not so highly specialized that they cannot cover off the function of other organs. For instance the kidneys and heart have secondary endocrine functions supporting hormone regulation in the body.

*Inquiry*: What purpose does it serve to have something like endocrine function covered by more than one element in the body?



## Exchange

### Examples

Nature: Organisms, Ecosystems, and Biosphere

Ecosystem: Specialized fungi translocate mineral elements through the soil and deliver them to the roots of plants where they are exchanged for sugars produced in the plant's leaves. If a fungus specializes to the degree where it can exchange with only one species of plant it may become very efficient, but if its plant partner disappears so will the fungus. If the fungus is less specialized and has a generalized capacity to trade with many species it may not be maximally efficient, but it will be more resilient to changes in plant distributions.

*Inquiry:* What would happen to a pollinating insect that specialized in pollinating only one particular kind of plant if that plant became endangered?





## Exchange

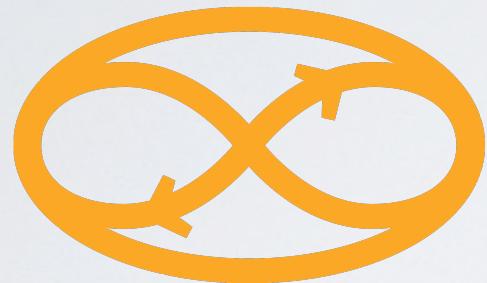
### Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Organizations: Specialist employees exchange skills like accounting, management, trade skills, and IT expertise in order to create productive business systems. If the employees are so highly specialized that they do not understand enough about other roles within the business to relate to them, or in a pinch fill in for them, then specialization may have gone too far. If employees and managers are too general in their abilities, tasks may be covered off by a number of people, but they will not be done with maximum levels of expertise or productivity.

*Inquiry:* In different kinds of organization is it appropriate to have differing levels of the degree to which people specialize in their skills? If so, why?





## Exchange

### Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Socio-Economic Systems: Economies are composed of individuals, businesses and whole industries that develop unique capacities and then trade to form a multi-scaled system of exchange. Highly specialized businesses and institutions are needed as economies grow more complex, but high specialization makes business vulnerable to market changes that marginalize the demand for their unique goods or services. All businesses in an economic system must find the balance between high specialization that brings productivity gains and more general capacities that allow them to adapt to changing circumstances.

*Inquiry:* In a period of volatile and uncertain market conditions should a business increase its specialization to drive productivity or increase its adaptive ability by investing in the ability to produce a more flexible range of products?





# Exchange

Specialized



Generalized

**Life:** Martial Arts Training

- How is it now?
- How could you adjust it?

**Work:** As Systems Thinking Educator

- How is it now?
- How could you adjust it?

**World:** Resource Extraction

- How is it now?
- How could we adjust it?



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# Creativity

Innovative Adaptations



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'Creativity' represents the emergence of new forms within a system.

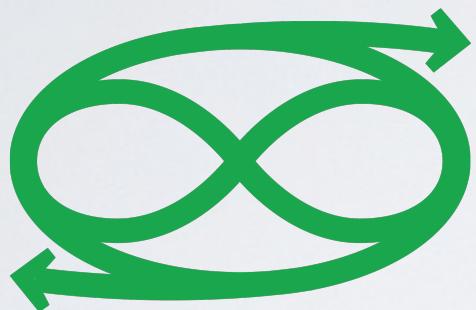
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‘Creativity’ represents the emergence of new forms within a system.

All natural systems display the capacity for creative evolution in response to changes in the conditions around them. Animals that camouflage themselves to mimic their environment must evolve their strategies as the landscape around them changes. Plant species will continually evolve new forms of protection as their predators evolve to overcome previous protective strategies.

- What role does creativity play within a system?
- Think about what it would be like if an organization was constantly reinventing itself.
- Would it have enough periods of stable activity to be productive?
- Alternatively, what if an organization never changed any aspect of how it was organised?
- How much energy does it take to create a new recipe versus using one you already know well?
- How could you balance an existing Creativity process or integrate a new one into a system in your life to improve how it is organized?
- How does Creativity serve to coordinate systems?





Creativity

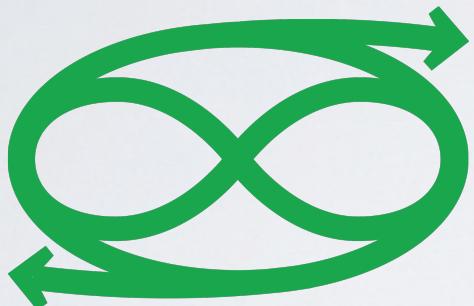
## Elements

- Description
- Pattern
- Definition
- Principle
- Aspect



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## Creativity

### Description

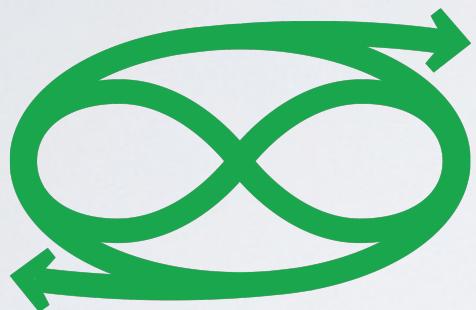
Significance: The Creativity Pattern represents the emergence of new forms and processes within systems.

Role: The role of Creativity is to help systems adapt to changes in the ever-changing environments around them.

Effect: Creativity demonstrates the large gains that can be made through successful innovation.

Balance: Creativity must be balanced so that, on the one hand, a system gains the benefits of successful innovation; but, on the other hand, it does not become exhausted through continually expending energy on uncertain experiments.



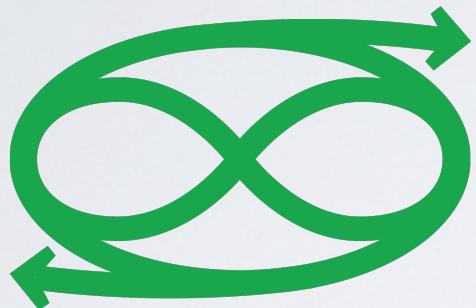


## Creativity

## Pattern

The arrow-tipped lines extending from the outer oval demonstrate the expansive emergence into new territory required to bring forth a creative act. The two inner shapes signify 'parts' that are encompassed by the larger oval into a 'whole' system. This basic part/whole configuration indicates the role of Rhythm as an Aspect of Source.





Creativity

## Definition

The emergence of novel adaptations within systems.



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## Creativity

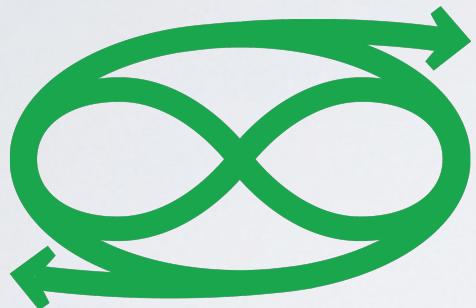
## Principle

The principle of adaptive emergence:

The enduring health and evolution of any system depends on the appropriate balance and integration of:

- creative experimentation with the ongoing successful operation of the system, *for a given context.*





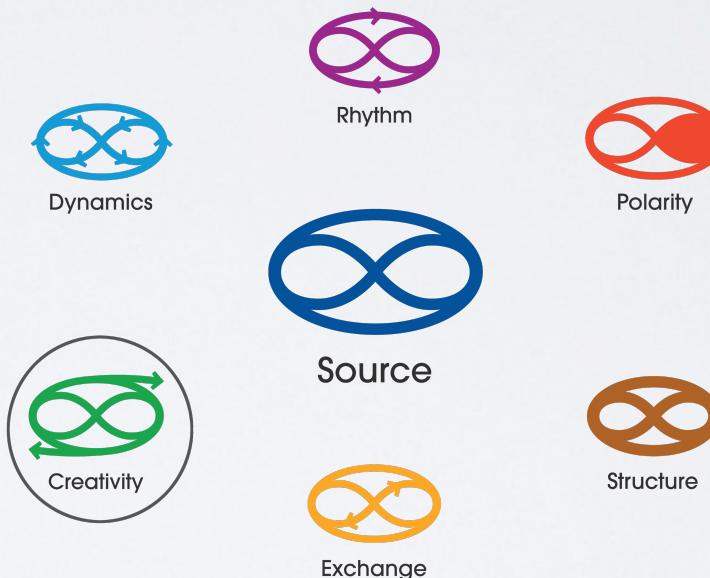
Creativity



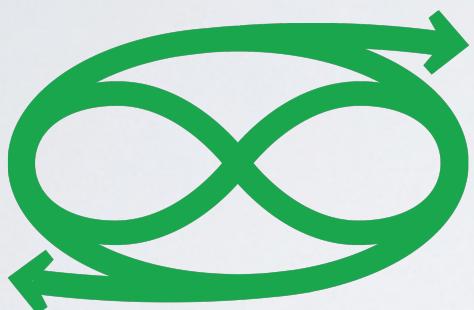
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## Aspect

Creativity is one of 7 primary Aspects of Source, the most foundational Pattern in the PatternDynamics™ framework.



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Creativity

## Examples

Nature: Organisms, Ecosystems, and Biosphere

- Organism
- Ecosystem

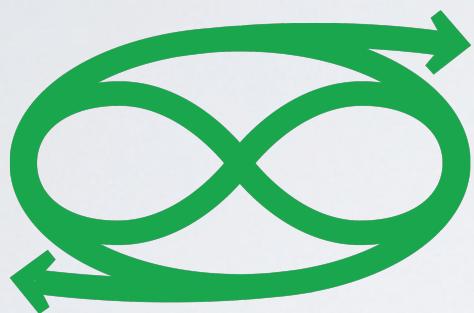
Culture: Individuals, Organizations, and Socio/Economic Systems

- Organizations
- Socio-Economic Systems



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Creativity



PatternDynamics™

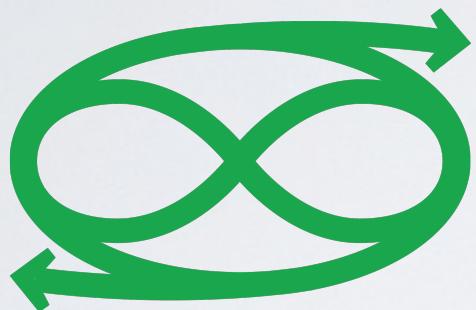
## Examples

Nature: Organisms, Ecosystems, and Biosphere

Organism: Organisms as diverse as viruses and mammals show both minor adaptations to temporary changes in things like moisture availability and major evolutionary leaps to accommodate greater changed circumstances, such as climate change. Any organism that places a large emphasis on experimental adaptations risks expending too much energy innovating. This will compromise existing productivity. On the other hand, organisms that do not adapt at all, or too slowly, will be out-competed by organisms that adapt to fit the changing circumstances better.

*Inquiry*: Even if outside circumstances do not change could an organism be outcompeted in its niche if another organism innovates in a way that makes it more productive in that niche?

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Creativity



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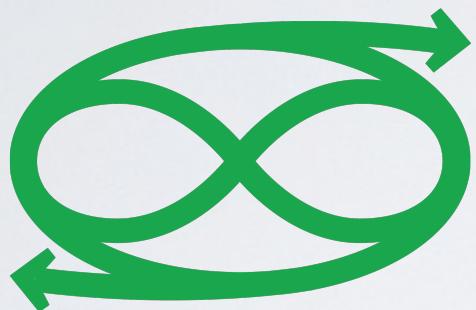
## Examples

Nature: Organisms, Ecosystems, and Biosphere

Ecosystem: Forest ecosystems display adaptive responses that allow them to recover from disturbances as diverse as wind throw, landslip, human harvesting, pest infestation, and fire. If conditions like human harvesting place a greater imperative to adapt to disturbance than the forest can manage, it may be replaced by another vegetation type more suited to that type of disturbance. Alternatively, if forest ecosystems are protected by humans from the cycles of disturbance to which they have adapted, like fire, they may lose their natural vigour and become prone to attack by things they are not adapted to, like pests and disease normally held in check by fire events.

*Inquiry:* Is it important to recognize what types of disturbance events ecosystems have adapted to when managing them? If so, why?

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Creativity

## Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Organizations: All organisations must balance the rate of change to their operational systems. If changes are made too frequently and speculatively the energy spent by members adapting to the new changes and the energy required to repair failures may compromise the health of the organisation. If changes are not made frequently enough the organisation may become dysfunctional by virtue of being out of step with the world around it.

*Inquiry*: Do competitors assess other organisations' levels of adaptation to current conditions? Why is this an important consideration in a competitive environment?



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Creativity

## Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

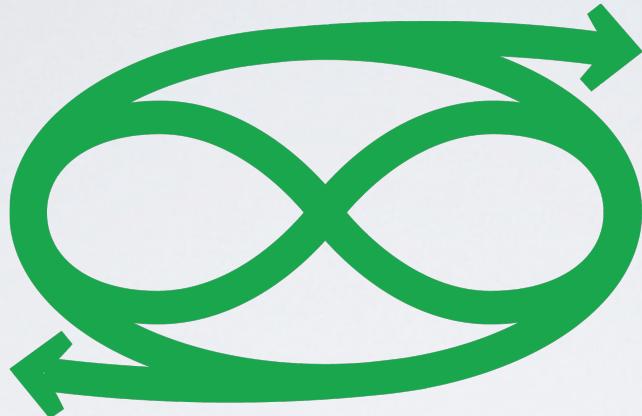
Socio-Economic Systems: If governments make large or frequent changes to tax law without consulting industry and without giving enough notice of changes, business may find it difficult and resource intensive to adapt to the new fiscal conditions. If government regulators are slow to change tax law to fit with changed economic conditions then it may have an equally disruptive effect because tax revenue may not be being collected effectively enough to support the institutions required for a robust economy.

*Inquiry:* Can you think of an example where changes to tax law made it very difficult for some business to adapt quickly enough to survive?



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# Creativity

Innovative



Conservative

**Life:** Integral Theory

- How is it now?
- How could you adjust it?

**Work:** PatternDynamics

- How is it now?
- How could you adjust it?

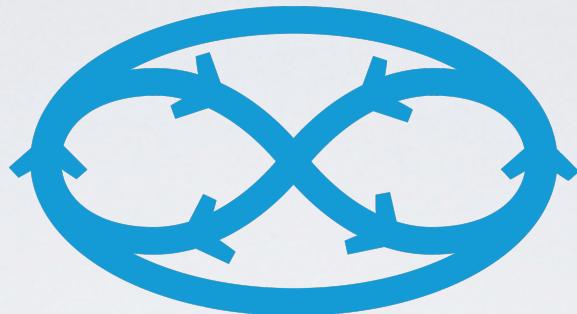
**World:** Agriculture

- How is it now?
- How could we adjust it?



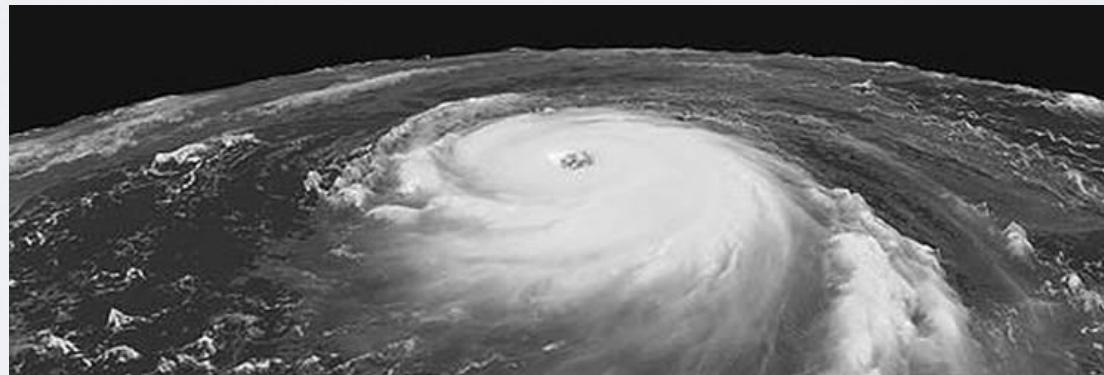
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# Dynamics

Integrated Systems



‘Dynamics’ signifies the coordination of processes at the systems level.



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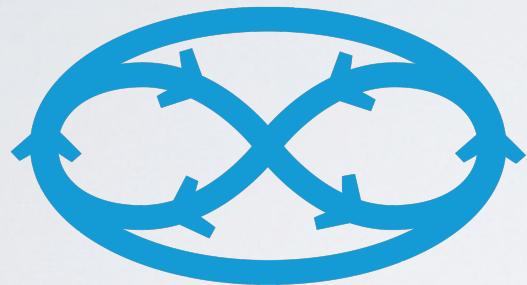
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'Dynamics' signifies the coordination of processes at the systems level.

All natural systems have processes that integrate dynamics at the systems level. In terrestrial ecosystems fire events can cause changes in species composition that favor more future fire events, starting a positive feedback loop that amplifies fire frequency. Small adjustments over many iterative cycles can lead systems to adapt considerably over time to events like climate change or soil fertility decreases.

- What role do systems dynamics play within systems?
- Think about what it would be like within an organization if there was no way for feedback to be given or received by anyone.
- How would this affect the ability to adjust operations to suit new conditions?
- How does feedback operate to either enhance or diminish a process within a system?
- What effect does making small changes over many cycles have versus making a dramatic change over a relatively short period of time?
- How could you balance existing Dynamics or integrate new ones into a system in your life to improve how it is organized?
- How does Dynamics serve to coordinate systems?



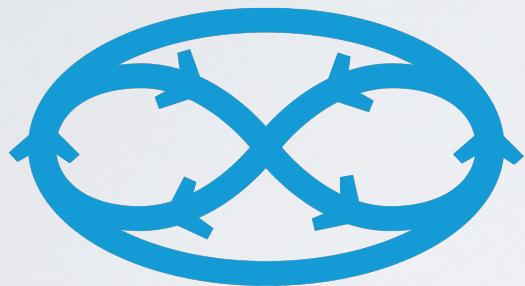


## Dynamics

### Elements

- Description
- Pattern
- Definition
- Principle
- Aspect





## Dynamics

### Description

Significance: The Dynamics Pattern represents integration, coordination, and control at the systems level itself.

Role: The role of Dynamics is to provide highly leveraged means for integrating, coordinating and controlling systems level operations that support the attainment of goals.

Effect: Dynamics demonstrates the often very highly leveraged effects of integrations, coordination, and control at the systems level.

Balance: Dynamics must be balanced so that, on the one hand, integration, coordination, and control processes are effectively leveraged for meeting goals; but, on the other hand, care must be taken not to apply too much leverage causing systems dynamics to be thrown out of control.





## Dynamics

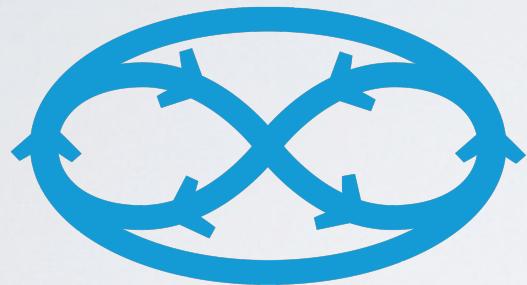


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## Pattern

The arrows leading around a circuit illustrate the integration and coordination of processes that provide controls at the systems level. The two inner shapes represent 'parts' which are encompassed by the larger oval into a 'whole' system. This basic part/whole configuration indicates the role of Rhythm as an Aspect of Source.

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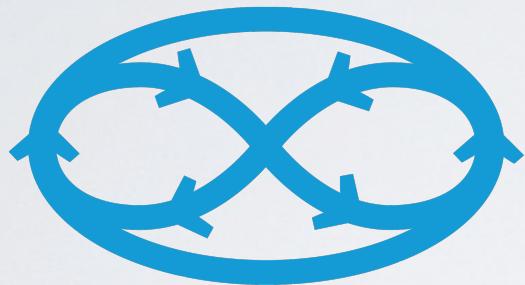


## Dynamics

### Definition

Processes that effect goal directed integration, coordination, or control at the systems level.





## Dynamics

## Principle

### The principle of systemic leverage:

The enduring health and evolution of any system depends on the appropriate balance and integration of:

- the use of systems level leverage with the need to avoid throwing systems out of control, *for a given context.*



# Aspect

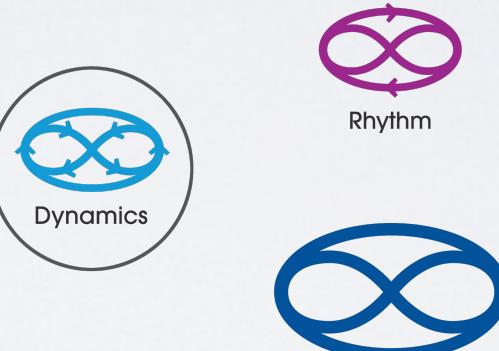
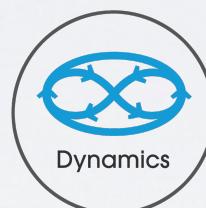


Dynamics



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Dynamics is one of 7 primary Aspects of Source, the most foundational Pattern in the PatternDynamics™ framework.



Source



Creativity



Rhythm



Exchange

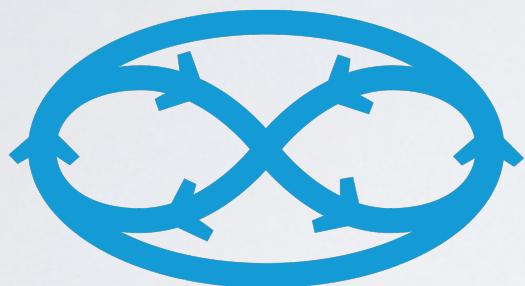


Polarity



Structure

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## Dynamics

### Examples

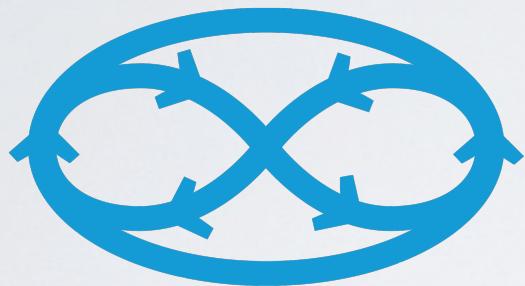
Nature: Organisms, Ecosystems, and Biosphere

- Organism
- Ecosystem

Culture: Individuals, Organizations, and Socio/Economic Systems

- Organizations
- Socio-Economic Systems





## Dynamics

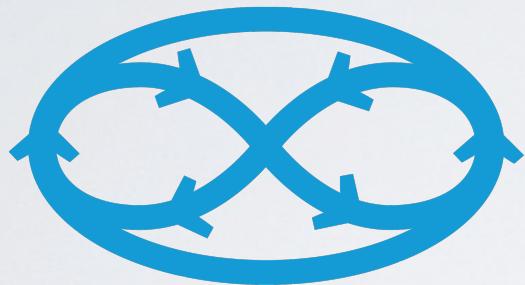
## Examples

Nature: Organisms, Ecosystems, and Biosphere

Organism: The human nervous system is constantly taking measurements of ambient temperature, which then feed back to adjust activity levels and the body's overall metabolic rate. If the iteration period of cycles of adjustment is left too long the system will swing wildly from extreme to extreme. If the cycles are too frequent the system will become stressed from the constant activity of adjustment.

*Inquiry:* What would happen if the body's ability to measure ambient temperature was faulty and it increased metabolic activity when ambient temperatures rose?





## Dynamics

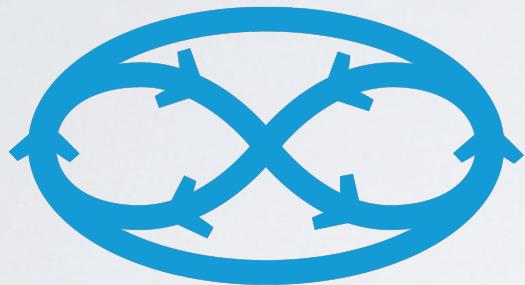
## Examples

Nature: Organisms, Ecosystems, and Biosphere

Ecosystem: Coral Reefs are formed by a symbiotic relationship between a calcium carbonate secreting polyp and a photosynthetic algae, which lives within its tissues. This dynamic synergy allows these tiny creatures to build vast reef systems. If the individual organisms give up too much autonomy the reef system will lose adaptability. If the different organisms do not cooperate fully enough a reef system will not be possible.

*Inquiry:* How does the level of integration at the level of the reef system itself determine the ongoing viability of the greater marine ecosystem it supports.





## Dynamics

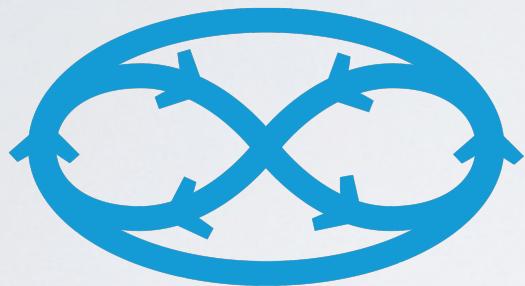
### Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Organizations: Incremental adjustments to a business's core operating system over many cycles may help improve organisational performance. If the adjustments to the system in each iteration are too large, too much energy is used up in making adjustments and not enough is available for productive activity. If the adjustments are smaller the organisation may be more stable, but lose market share over time as competitors evolve more rapidly.

*Inquiry:* What are factors in determining how much to use the lever of iterative change on an organisational system?





## Dynamics

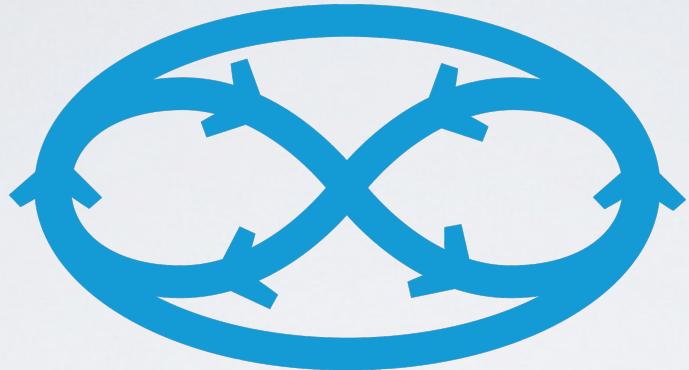
### Examples

Culture: Individuals, Organizations, and Socio/Economic Systems

Socio-Economic Systems: Central banking institutions provide feedback that adjusts the rate of growth in the economy through the manipulation of interest rates. If the central bank cuts prime lending rates too much the economy will overheat as businesses borrow money and expand their operations. If the bank is too slow to cut rates during a slowdown the economy may go into recession.

*Inquiry:* Have interest rate controls ever caused overcorrections in the economy?





# Dynamics

Highly  
Leveraged



Small  
Adjustments

## **Life:** Coaching

- How is it now?
- How could you adjust it?

## **Work:** Business Metrics

- How is it now?
- How could you adjust it?

## **World:** Global Economy

- How is it now?
- How could we adjust it?

