Sustainability Leadership

Class 3:
Prologue: Clarifications and new tool
Part 1: Decisions, biases, and the creation of knowledge
Part 2: Conceptual models

Tool

Summer 2018: Sustainability Leadership

Local Links:

Overview (print)
Legal and formal issues (print)
Class Schedule (print)
Submit 4+4-Form (docx)
Get Woke — Stay Woke
All classes (print)
All Questions (print)
Research Project Details (print)
Fieldwork week (print)
References (print)
Print All
Access to Workspace

Tools
Earthtime
Climate Wizard

Sustainability Leadership

Course: BIOL/OEAS/IDS 467, BIOL/OEAS 567 (three credits)
CRNs: 35510, 35861, 35874, 35855, 35856
Course title: Sustainability Leadership
Instructors: Dr. Hans-Peter Plag, Dr. Tatyana Lobova, Dr. Eddie Hill
Term: Summer 2018 (season 1)
Time: Mondays and Wednesday, 9:00 AM - 1:00 PM
Location: BAL 2068 -- SRC 1009

GET WOKE — STAY WOKE

Email: Email

Password: Password

Password has to be between 6 and 20 characters long.
Allowed characters: letters, numbers, !, -

** REMEMBER YOUR PASSWORD, You will need it when you come back **

Submit

Tool

MARI RESEARCH ACADEMICS INFORMATION CONNECTING RESOURCES USER ACCESS

Summer 2018: Sustainability Leadership

Local Links:

- Overview (print)
- Legal and formal issues (print)
- Class Schedule (print)
- Submit 4+4-Form (docx)
- Get Woke — Stay Woke
- All classes (print)
- All Questions (print)
- Research Project Details (print)
- Fieldwork week (print)
- References (print)
- Print All
- Access to Workspace

Tools

- Earthtime
- Climate Wizard
- Everglades Map

Sustainability Leadership

Course: BIOL/OEAS/IDS 467, BIOL/OEAS 567 (three credits)
CRNs: 35510, 35861, 35874, 35855, 35856
Course title: Sustainability Leadership
Instructors: Dr. Hans-Peter Plag, Dr. Tatyana Lobova, Dr. Eddie Hill
Term: Summer 2018 (season 1)
Time: Mondays and Wednesday, 9:00 AM - 1:00 PM
Location: BAL 2068 -- SRC 1009

GET WOKE — STAY WOKE

Submit 4+4 Form | View Public 4+4 Part | View Full 4+4 Forms

Email: hpplag@odu.edu

Pin it: Pin it

Ask it: Ask it

Like it: Like it

Submit your Post/Ask/Like

Cancel

Pinned	Asked	Liked
It is crucial that all group members actively contribute to the group deliberations and work. Each member has obligations to the others and need to be engaged.	How difficult was the Question Set 1 for you all?	The future cannot be discounted.

Tool

Summer 2018: Sustainability Leadership

Local Links:

Overview (print)
Legal and formal issues (print)
Class Schedule (print)
Submit 4+4-Form (docx)
Get Woke — Stay Woke
All classes (print)
All Questions (print)
Research Project Details (print)
Fieldwork week (print)
References (print)
Print All
Access to Workspace

Tools
Earthtime
Climate Wizard
Everglades Map

Sustainability Leadership

Course: BIOL/OEAS/IDS 467, BIOL/OEAS 567 (three credits)
CRNs: 35510, 35861, 35874, 35855, 35856
Course title: Sustainability Leadership
Instructors: Dr. Hans-Peter Plag, Dr. Tatyana Lobova, Dr. Eddie Hill
Term: Summer 2018 (season 1)
Time: Mondays and Wednesday, 9:00 AM - 1:00 PM
Location: BAL 2068 -- SRC 1009

Submit a 4+4 Form

You cannot submit feedback outside of class.

Back to GetWoke-StayWoke Page

Tool

Summer 2018: Sustainability Leadership

Local Links:

Overview (print)
Legal and formal issues (print)
Class Schedule (print)
Submit 4+4-Form (docx)
Get Woke — Stay Woke
All classes (print)
All Questions (print)
Research Project Details (print)
Fieldwork week (print)
References (print)
Print All
Access to Workspace

Tools
Earthtime
Climate Wizard
Everglades Map

Sustainability Leadership

Course: BIOL/OEAS/IDS 467, BIOL/OEAS 567 (three credits)
CRNs: 35510, 35861, 35874, 35855, 35856
Course title: Sustainability Leadership
Instructors: Dr. Hans-Peter Plag, Dr. Tatyana Lobova, Dr. Eddie Hill
Term: Summer 2018 (season 1)
Time: Mondays and Wednesday, 9:00 AM - 1:00 PM
Location: BAL 2068 -- SRC 1009

VIEW 4+4 FORMS

Back to GetWoke-StayWoke Page

Feedback from Class 1

This is important/working	This is a challenge/not working
Must be very familiar with the system and the components involved. Assessing the situation, reflections on the biases that could affect the outcome of the situation. I feel like this makes so much sense because the requirements for this want us to understand the situation completely.	
The last part of class time for working with the group and starting to develop a plan for the research is very helpful.	
Each individual decision holds greater impacts on systems than we originally think. Changing daily habits is the only way to transform a systems business as usual agenda.	Who distinguishes how actions affect the protection of nature and people? Back casting looking back on a situation to figure out what helped cause current events.
The five competencies to be a successful leader in sustainability. As a class structure: going around and asking each classmate on their opinion (asking which of the 5 competencies was most important)	
It is important to be secure in yourself as a sustainability leader and in your actions if you want to lead people. I really like that values is an important competency for leadership. Having a	It is tough to get people to change from "business as usual", to change habits in other people.

Tool

MARI RESEARCH ACADEMICS INFORMATION CONNECTING RESOURCES USER ACCESS

Summer 2018: Sustainability Leadership

Local Links:

- Overview (print)
- Legal and formal issues (print)
- Class Schedule (print)
- Submit 4+4-Form (docx)
- Get Woke — Stay Woke
- All classes (print)
- All Questions (print)
- Research Project Details (print)
- Fieldwork week (print)
- References (print)
- Print All
- Access to Workspace

Tools

- Earthtime
- Climate Wizard
- Everglades Map

Sustainability Leadership

Course: BIOL/OEAS/IDS 467, BIOL/OEAS 567 (three credits)
CRNs: 35510, 35861, 35874, 35855, 35856
Course title: Sustainability Leadership
Instructors: Dr. Hans-Peter Plag, Dr. Tatyana Lobova, Dr. Eddie Hill
Term: Summer 2018 (season 1)
Time: Mondays and Wednesday, 9:00 AM - 1:00 PM
Location: BAL 2068 -- SRC 1009

GET WOKE — STAY WOKE

Submit 4+4 Form | View Public 4+4 Part | View Full 4+4 Forms

Email: hpplag@odu.edu

Pin it: Pin it

Ask it: Ask it

Like it: Like it

Submit your Post/Ask/Like

Cancel

Pinned	Asked	Liked
It is crucial that all group members actively contribute to the group deliberations and work. Each member has obligations to the others and need to be engaged.	How difficult was the Question Set 1 for you all?	The future cannot be discounted.

Clarifications

Misunderstood

Not Understood

Backcasting: planning method that starts by defining a desirable future and then works backwards to identify policies and programs that have the potential to connect this future to the present.

Robinson (1990)

Participatory Modeling/table to games: We will come back to this

Clarifications

Participatory modeling is a practical approach in system dynamics, with the aim of including all interested parties such as stakeholders or public in the decision-making process regarding environmental questions.

Clarifications

Participatory modeling is a practical approach in system dynamics, with the aim of including all interested parties such as stakeholders or public in the decision-making process regarding environmental questions.

Clarifications

Participatory modeling is a practical approach in system dynamics, with the aim of including all interested parties such as stakeholders or public in the decision-making process regarding environmental questions.

ComMod
Companion Modelling



Home | Charter | Case Studies | Documents | Training | Association

ComMod : a Companion Modelling Approach

Since 2000, some researchers working in the field of renewable resource management have been using various tools, particularly Agent-Based Models and Role-Playing Games, to tackle issues regarding decision processes, common property, co-ordination among actors, etc. Dealing with models and games has been a mean to cross disciplines boundaries and to acknowledge the complex nature of the systems under study. This choice led us to formalise our relation to modelling within what we called a ***companion modelling*** approach.

At a time when models and simulations to tackle complexity and for decision support are flourishing, this group of researchers found important to specify the contents of this approach, which should be understood as a scientific posture more than a modelling handbook. Modelling is merely an intermediary object facilitating our collective and interdisciplinary thought.

A charter, written in April 2004, presents the posture and the main principles in a text that has to be taken as a starting point for further discussions.

A project on sustainable development and agriculture recently led to the publication of a collective book.

Members from the ComMod network have developed training sessions based on active learning principles. These training modules on participatory modelling favour collective activities: in small groups, participants design a conceptual model, then they implement it as a concrete tool. Two formats are proposed:

- **ComMod interdisciplinary research school** : one week on the main principles of the companion modelling approach, with a special focus on role-playing games and facilitation. Forthcoming sessions:
  - in English, 21-26 Septembrer 2014 in Wageningen (organized by Wageningen University, Graduate School PE&RC; contact: Lennart Suselbeek). Information and registration: www.pe-rc.nl/cm.htm
  - in French, 16-20 March 2015 in Chateauneuf-de-Gadagne (France), organized by FormaScience INRA (for further information, please contact Michel Etienne);
  - in English, 18-22 May 2015 in Zürich (Switzerland), organized by ForDev ETH Zürich (for further information, please contact Anne Dray).
- **MISS-ABMS** (Multi-platform International Summer School on Agent-Based Modeling & Simulation): 2 intensive weeks on being able to code computer agent-based models, with some insights about their use in the companion modelling approach. Forthcoming session:
  - in English, 8-19 September 2014 in Montpellier (France), organized by CIRAD-Green (for further information,have a look here).

If you share the scientific posture expressed in the charter and if you are willing to participate to the collective work of the group, you are welcome to join the ComMod association. Additionally, you can also subscribe to a mailing list related to companion modelling.

Clarifications

Participatory modeling is a practical approach in system dynamics, with the aim of including all interested parties such as stakeholders or public in the decision-making process regarding environmental questions.

ComMod
Companion Modelling

Home | Charter | Case Studies | Documents | Training | Association

ComMod : a Companion Modelling Approach

Since 2000, some researchers working in the field of renewable resource management have been using various tools, particularly Agent-Based Models and Role-Playing Games, to tackle issues regarding decision processes, common property, co-ordination among actors, etc. Dealing with models and games has been a mean to cross disciplines boundaries and to acknowledge the complex nature of the systems under study. This choice led us to formalise our relation to modelling within what we called a ***com**panion **mod**elling* approach.

s and simulations to tackle complexity and for decision support are flourishing, this group of researchers found e contents of this approach, which should be understood as a scientific posture more than a modelling handbook. intermediary object facilitating our collective and interdisciplinary thought.

ril 2004, presents the posture and the main principles in a text that has to be taken as a starting point for further

le development and agriculture recently led to the publication of a collective book.

veloped training sessions based on active learning principles. These training modules on ies: in small groups, participants design a conceptual model, then they implement it as a

school : one week on the main principles of the companion modelling approach, with a d facilitation. Forthcoming sessions:
014 in Wageningen (organized by Wageningen University, Graduate School PE&RC;
ormation and registration: www.pe-rc.nl/cm.htm
Chateauneuf-de-Gadagne (France), organized by FormaScience INRA (for further information, please contact

ürich (Switzerland), organized by ForDev ETH Zürich (for further information, please contact Anne Dray).

nal Summer School on Agent-Based Modeling & Simulation): 2 intensive weeks on being able to code computer s about their use in the companion modelling approach. Forthcoming session:
4 in Montpellier (France), organized by CIRAD-Green (for further information,have a look here).

n the charter and if you are willing to participate to the collective work of the group, you are welcome to join the so subscribe to a mailing list related to companion modelling.

Clarifications

Participatory modeling is a practical approach in system dynamics, with the aim of including all interested parties such as stakeholders or public in the decision-making process regarding environmental questions.

ComMod
Companion Modelling

Home | Charter | Case Studies | Documents | Training | Association

ComMod : a Companion Modelling Approach

nt have been using various tools, particularly Agent-
es, common property, co-ordination among actors,
s and to acknowledge the complex nature of the
what we called a ***com**panion **mod**elling* approach.

are flourishing, this group of researchers found
cientific posture more than a modelling handbook.
ry thought.

that has to be taken as a starting point for further

f a collective book.

hese training modules on
en they implement it as a

delling approach, with a

uate School PE&RC;

ce INRA (for further information, please contact

r information, please contact Anne Dray).

intensive weeks on being able to code computer
oming session:
r information,have a look here).

work of the group, you are welcome to join the

Clarifications

Participatory modeling is a practical approach in system dynamics, with the aim of including all interested parties such as stakeholders or public in the decision-making process regarding environmental questions.

er information,have a look here).

work of the group, you are welcome to join the

Clarifications

Source: Wyborn (2007)

Figure 8b.1 *Rich picture a: Participant 1*

Source: Cleland (2007)

Figure 8b.3 *The ReefGame Board. Example from practice: board games*

Source: Cleland (2007)

Figure 8b.4 *A participatory gaming workshop in the Philippines. Lessons for practice*

Source: Wyborn (2007)

Figure 8b.2 *Rich picture b: Participant 2*

Fences and Windows: Using Visual Methods to Explore Conflicts in Land and Seascape Management Carina Wyborn and Deborah Cleland

Brown, Valerie A.. Tackling Wicked Problems: Through the Transdisciplinary Imagination (p. 161). Taylor and Francis. Kindle Edition.

Clarifications

Misunderstood

Not Understood

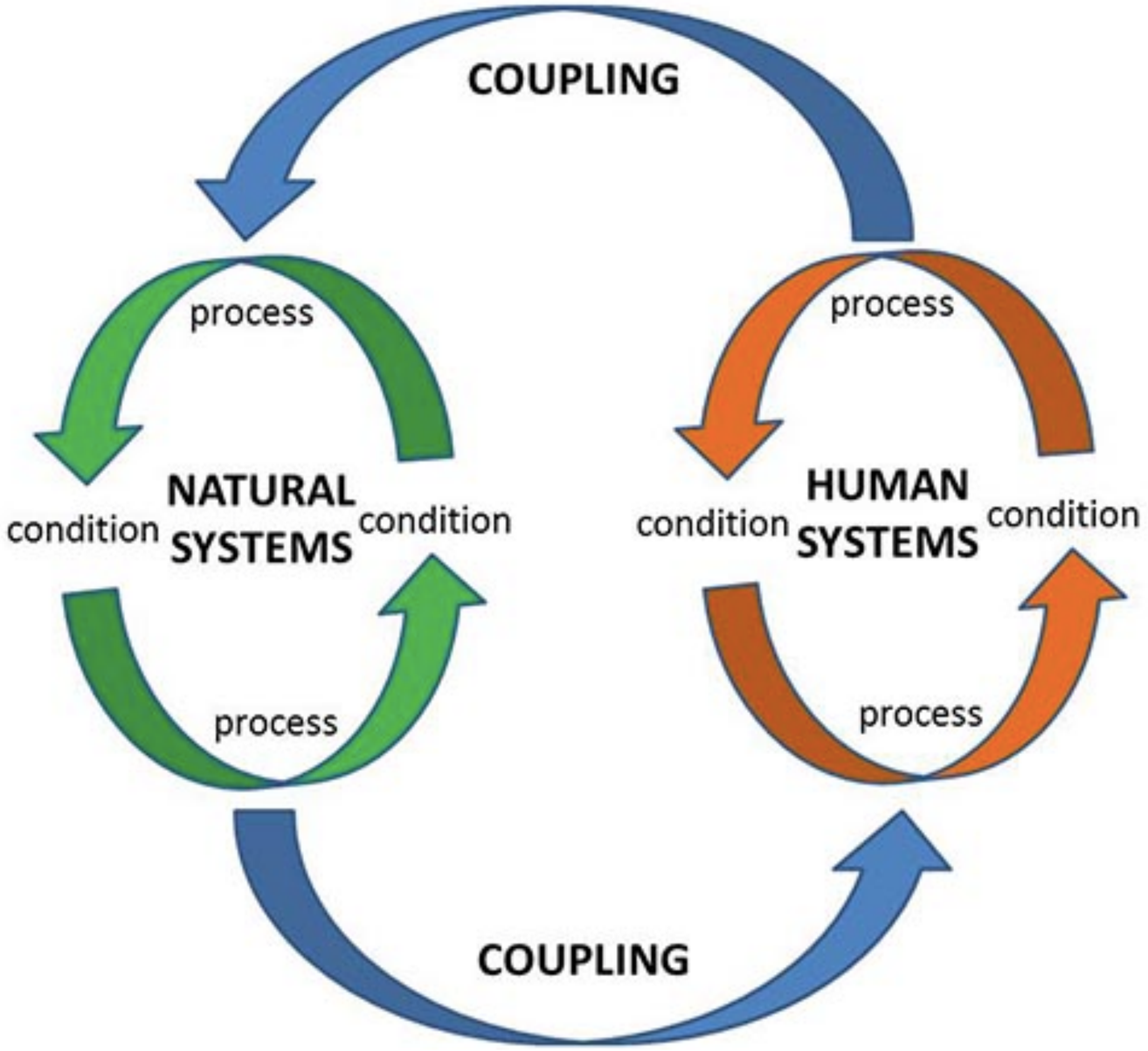
Backcasting: planning method that starts by defining a desirable future and then works backwards to identify policies and programs that have the potential to connect this future to the present.

Robinson (1990)

Participatory Modeling/table to games: We will come back to this

Conceptual models/Stock and Flow Models: We will come back to this

Clarifications



Clarifications

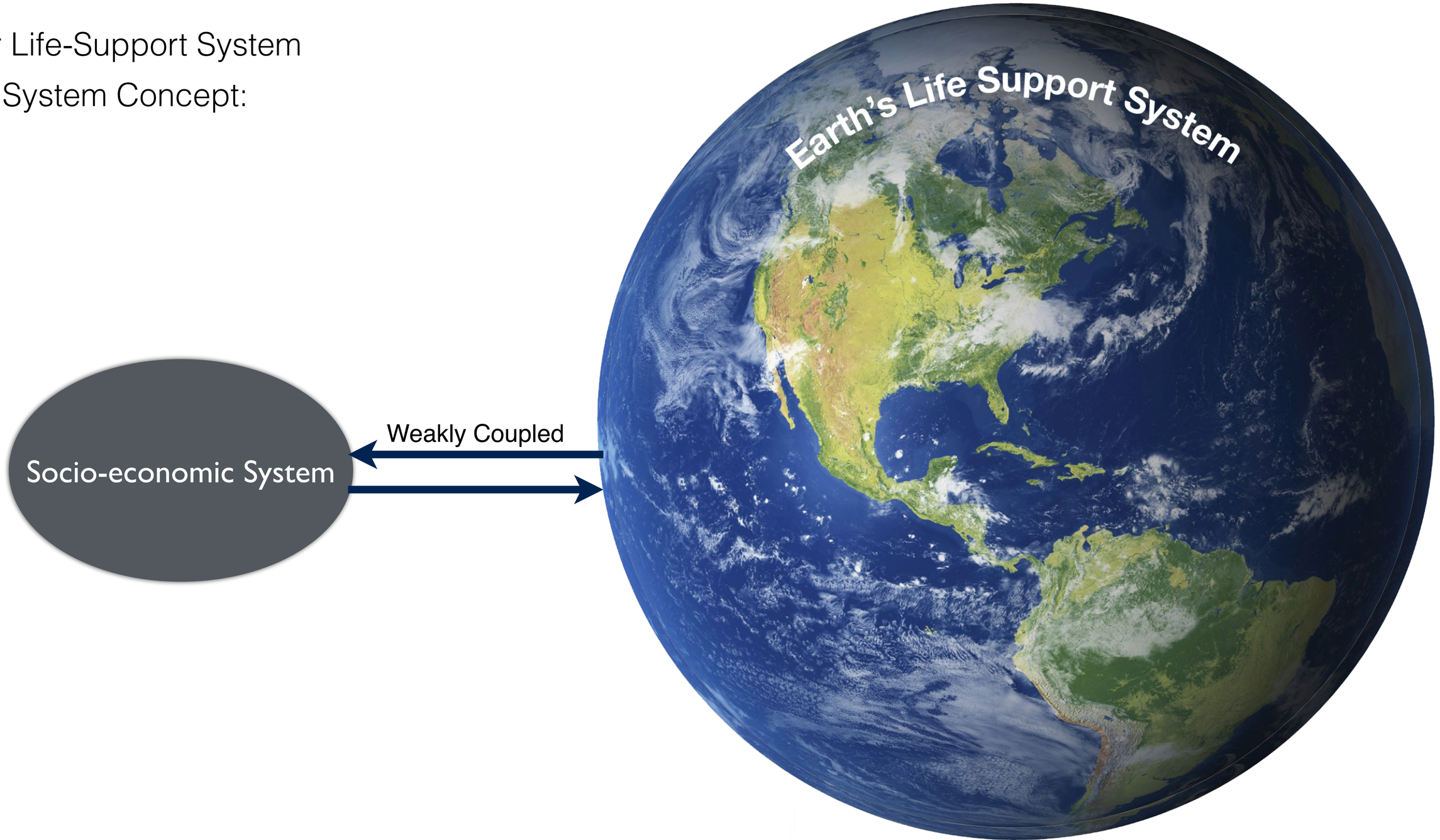
Clarifications

Earth: Our Life-Support System

Clarifications

Earth: Our Life-Support System

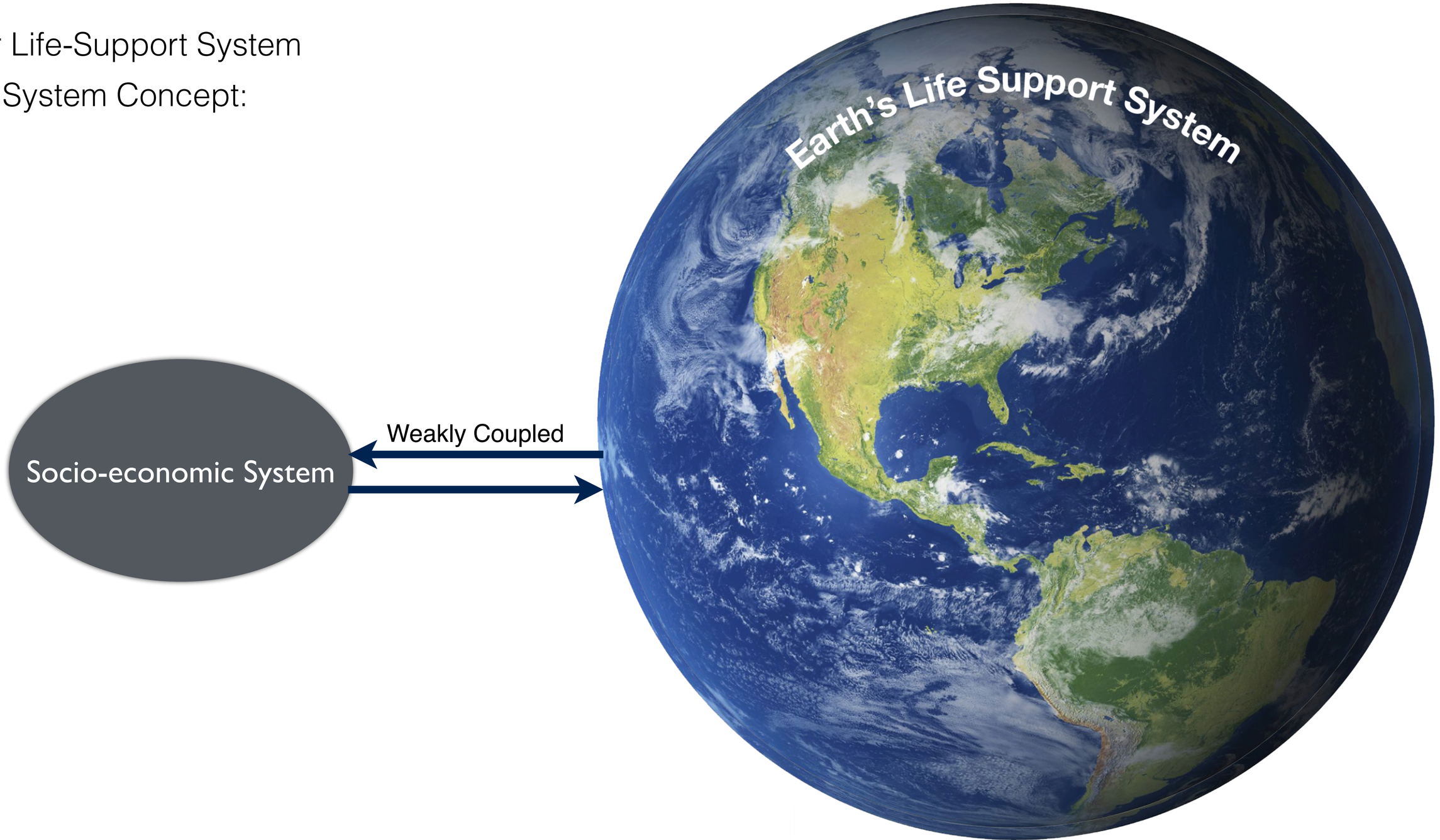
System of System Concept:



Clarifications

Earth: Our Life-Support System

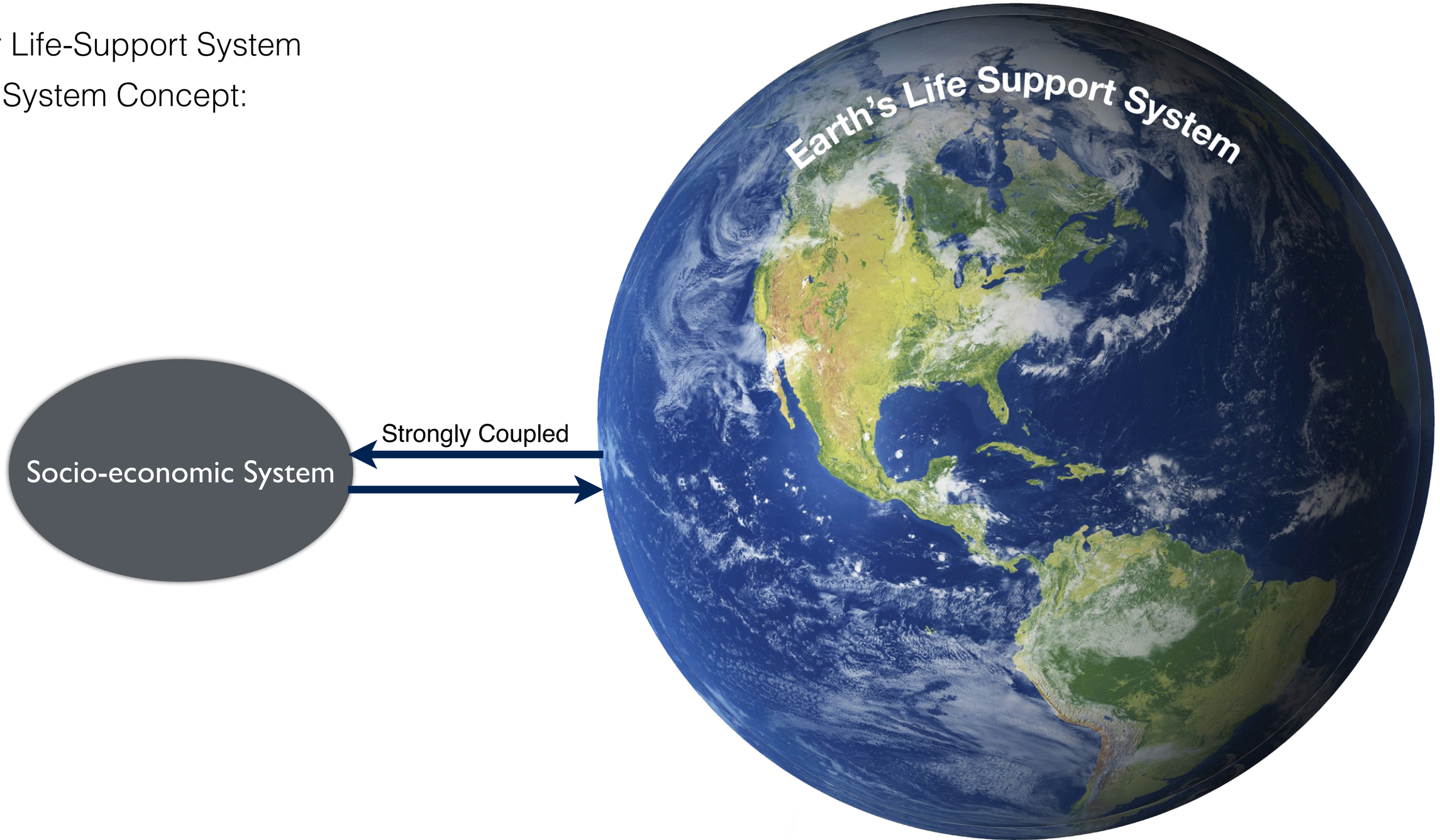
System of System Concept:



Clarifications

Earth: Our Life-Support System

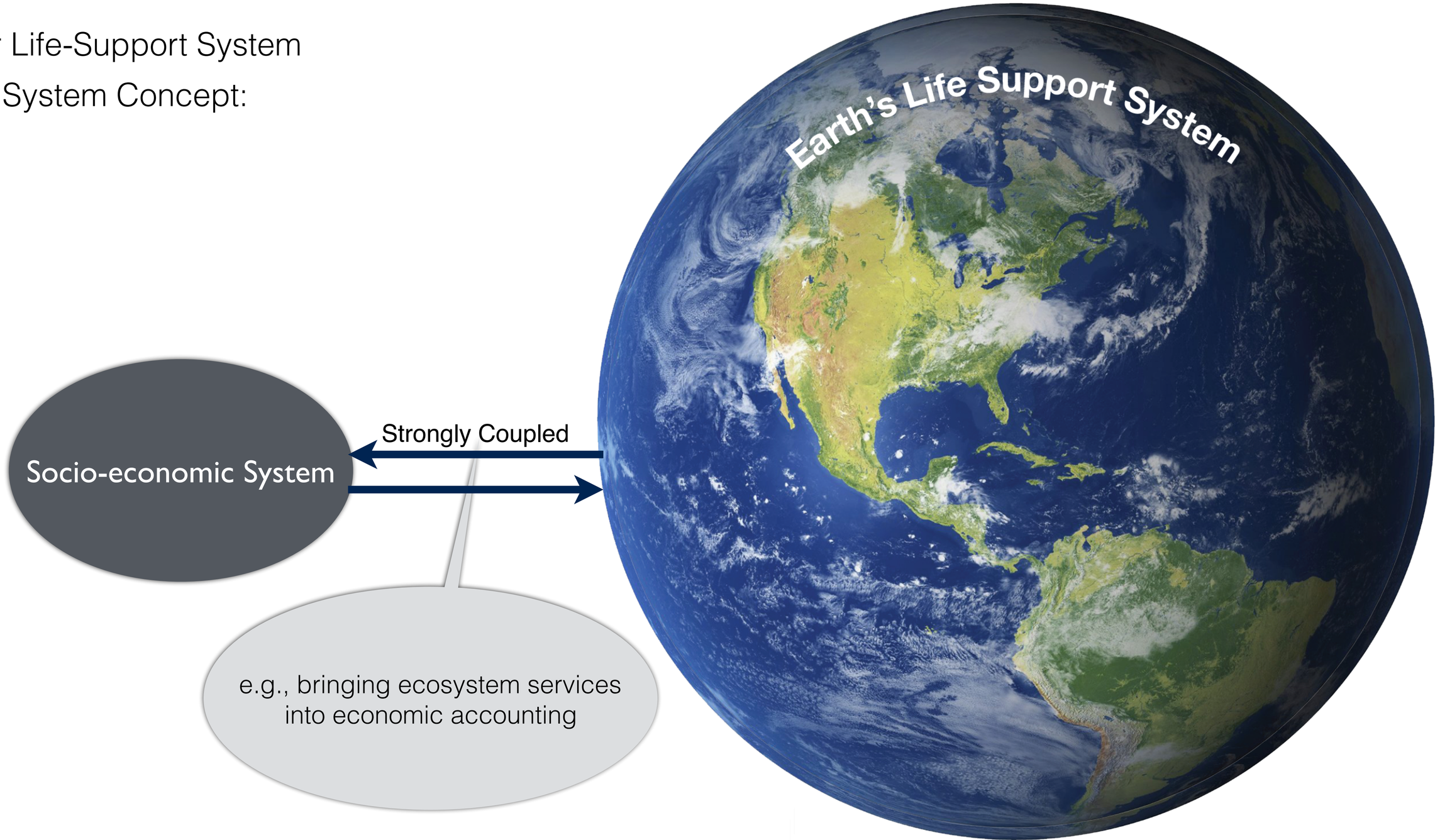
System of System Concept:



Clarifications

Earth: Our Life-Support System

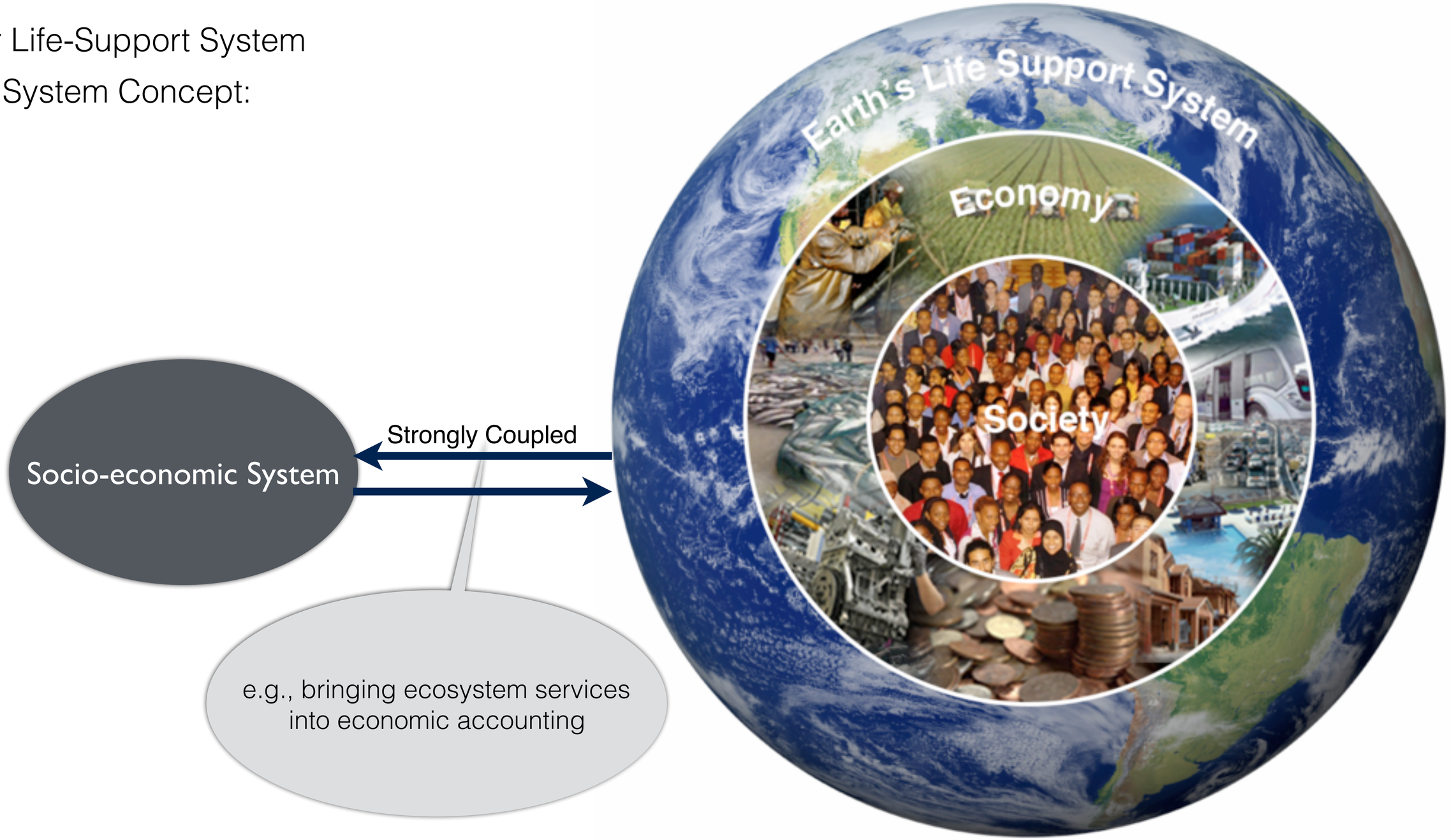
System of System Concept:



Clarifications

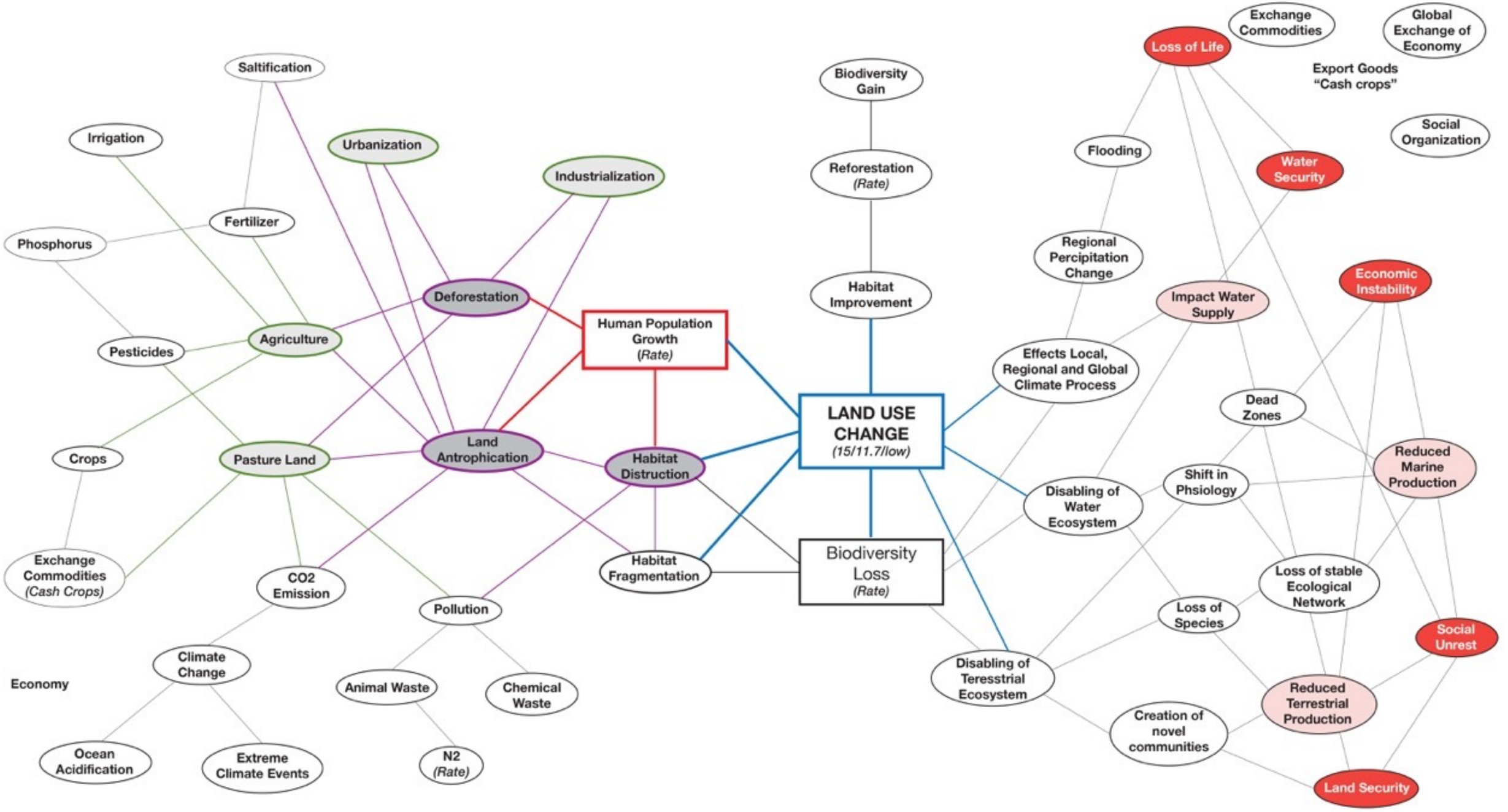
Earth: Our Life-Support System

System of System Concept:

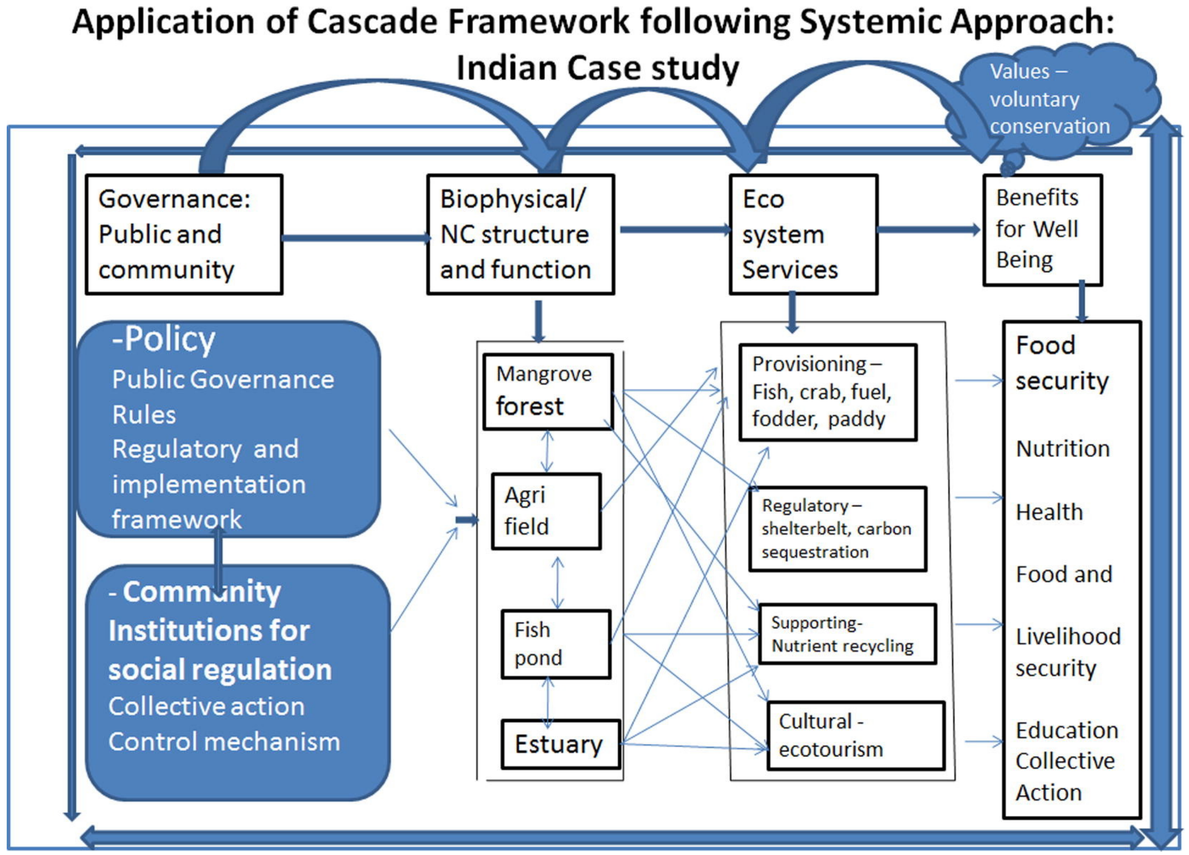


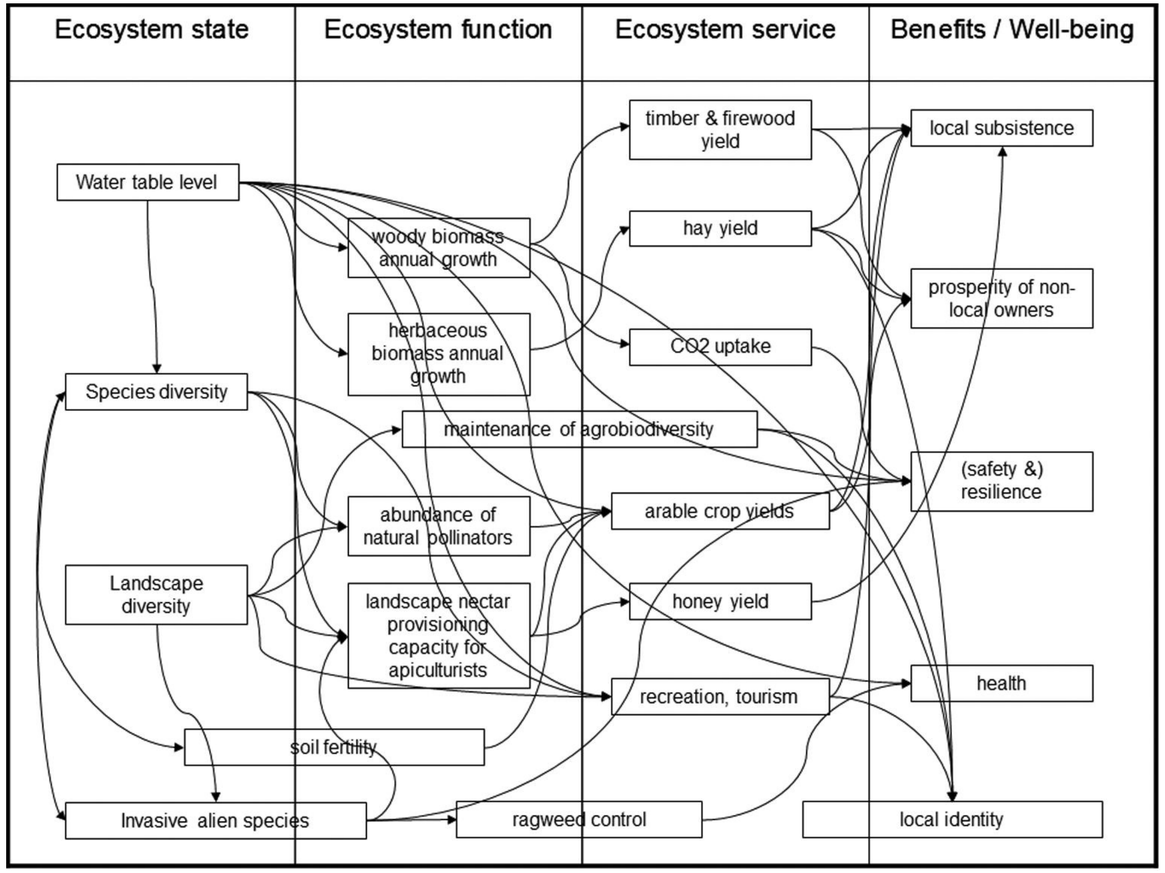
Clarifications

Clarifications

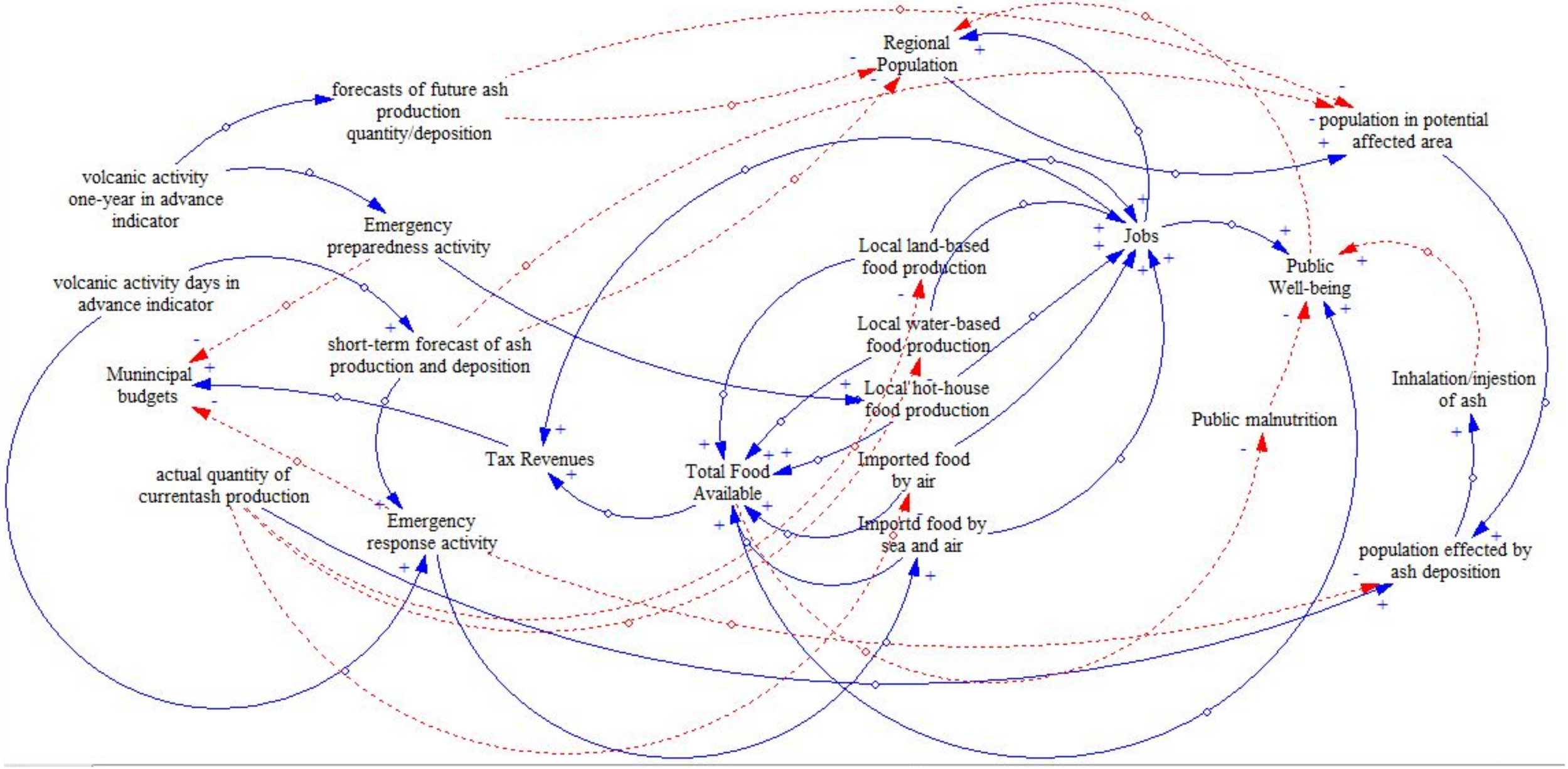


Clarifications





Clarifications



Clarifications

Misunderstood

Not Understood

Backcasting: planning method that starts by defining a desirable future and then works backwards to identify policies and programs that have the potential to connect this future to the present.

Robinson (1990)

Participatory Modeling/table to games: We will come back to this

Conceptual models/Stock and Flow Models: We will come back to this

How is every wicked problem a symptom of another issue? Let's discuss examples.

Irrationality of current mainstream economy discounting the future

Not Understood

http://www.ejolt.org/2013/01/discounting-the-future/

Irrationality of current mainstream economy discounting the future

For the purposes of investors, interest rates, impatience and risk necessitate that future costs and benefits are converted into present value in order to make them comparable with each other. The discount rate is a rate used to convert future economic value into present economic value. This is realised through the mechanism known as discounting.

There are **two main reasons for discounting**. The **first**, called '**pure time preference**', refers to the inclination of individuals to prefer 100 units of purchasing power today to 101, or 105, or even 110 next year, not because of price inflation (which is excluded from the reasoning) but because of the risk of becoming ill or dying and not being able to enjoy next year's income. A famous critique of 'pure time preference' came from the Cambridge economist Frank Ramsey in 1928, who observed that discounting later enjoyments in comparison with earlier ones is '**a practice which is ethically indefensible and arises merely from the weakness of the imagination**'.

Nevertheless, economists continue to discount the future, as Ramsey himself did, because of the **second reason**. Economists assume that **today's investments and technical change will produce economic growth**. Our descendants will be richer than we are. They will have three, four or even more cars per family. Therefore, the marginal utility or incremental satisfaction they will get from the third, fourth or fifth car will be lower and lower. Discounting is justified by the expectation of economic growth. However, Ramsey **did not take environmental considerations and resource exhaustion into account**.

Not Understood

http://www.ejolt.org/2013/01/discounting-the-future/

Irrationality of current mainstream economy discounting the future

We generally discount future amounts of money using constant discount rates, that is, discount factors of the form 1/(1+ r)t. This is called '**exponential discounting**', and it implies that values in the distant future tend to have present values close to nothing. High discount rates imply giving low values to future damages, and thus, betting against the environment and future generations. A distinction can also be made between public or social discount rates and private discount rates. Both sectors use a positive discount rate (that is r > 0), but there is a difference in the fact that the social discount rate is lower than the private discount rate. **This is because individuals (private sector) are mostly concerned with their own welfare in the very short term, and they are risk-averse, discounting future benefits heavily. On the other hand, the public sector (society as a whole) tends to have a longer-term perspective, entailing lower discount rates.**

Considering nations or societies with time horizons in the thousands of years, discounting the future at all is highly questionable. This is one of the most heavily debated issues in ecological economics. Discount rates of even 1–2 percent per year shift the costs of environmental degradation to later generations, and reduce incentives for long-term environmentally favourable projects. From the environmental point of view, instead of exponential discounting when assessing future costs and benefits, a slowly declining rate of discount (reaching zero percent per year) could be used to give more value to the future. However, sometimes it is argued that a low discount rate (equivalent to a low rate of interest, therefore cheap loans from the banks) will promote investments that might be environmentally damaging. This means that there is need for a second filter to ensure their environmental sustainability (Padilla, 2002; Philibert, 2003).

Not Understood

http://www.ejolt.org/2013/01/discounting-the-future/

Irrationality of current mainstream economy discounting the future

Economic growth theory does not include in its accounting the costs of the loss of nature, or those of defensive expenditures by which we try to compensate for nature's loss. If one tried to add up the genuine growth of the economy resulting from positive technical changes and investments (which nobody would deny), and the loss of exhaustible resources and environmental services caused by economic growth, the balance would be doubtful. (Furthermore, this would imply complete disregard for incommensurability of values.)

Discounting thus gives rise to an 'optimist's paradox'. The assumption of growth (measured by GDP) justifies our using more resources and polluting more now than we would otherwise do. Therefore, our descendants, who by assumption we anticipate will be better off than ourselves, might paradoxically be worse off – from the environmental point of view – than we are. Considerations of future well-being and intergenerational equity then requires the explicit incorporation of the widest range of economic, ecological, moral and ethical concerns, beyond the application of standard economics.

servation
on

orgeMonbiot
May 2018
T

531

The UK government wants to put a price on nature – but that will destroy it

George Monbiot

Defining Earth's resources as 'natural capital' is morally wrong, intellectually vacuous, and most of all counter-productive

Never mind that the new environmental watchdog will have no teeth. Never mind that the government plans to remove protection from local wildlife sites. Never mind that its 25-year environment plan is all talk and no action. We don't need rules any more. We have a pouch of magic powder we can sprinkle on any problem to make it disappear.

This powder is the monetary valuation of the natural world. Through the market, we can avoid conflict and hard choices, laws and policies, by replacing political decisions with economic calculations.

Almost all official documents on environmental issues are now peppered with references to "natural capital" and to the Natural Capital Committee, the Laputian body the government has created to price the living world and develop a set of "national natural capital accounts". The government admits that "at present we cannot robustly value everything we wish to in economic terms; wildlife being a particular challenge". Hopefully, such gaps can soon be filled, so we'll know exactly how much a primrose is worth.

The government argues that without a price, the living world is accorded no value, so irrational decisions are made. By costing nature, you ensure that it commands the investment and protection that other forms of capital attract. This thinking is based on a series of extraordinary misconceptions. Even the name reveals a confusion: natural capital is a contradiction in terms. Capital is properly understood as the human-made segment of wealth that is deployed in production to create further financial returns. Concepts such as natural capital, human capital or social capital can be used as metaphors or analogies, though even these are misleading. But the 25-year plan defines natural capital as "the air, water, soil and ecosystems that support all forms of life". In other words, nature is capital. In reality, natural wealth and human-made capital are neither comparable nor interchangeable. If the soil is washed off the land, we cannot grow crops on a bed of derivatives.

https://www.theguardian.com/commentisfree/2018/may/15/price-natural-world-destruction-natural-capital

As the cognitive linguist George Lakoff points out, when you use the frames and language of your opponents, you don't persuade them to adopt your point of view. Instead you adopt theirs, while strengthening their resistance to your objectives. Lakoff argues that the key to political success is to promote your own values, rather than appease the mindset you contest.The natural capital agenda reinforces the notion that nature has no value unless you can extract cash from it. Dieter Helm, who chairs the government's preposterous committee, makes this point explicit: the idea that nature has intrinsic value, independent of what humans can take from it, he says, is "dangerous". But this dangerous idea has been the motivating force of all successful environmental campaigns.

The commonest response to the case I'm making is that we can use both intrinsic and extrinsic arguments for protecting nature. The natural capital agenda, its defenders say, is "an additional weapon in the fight to protect the countryside". But it does not add, it subtracts. As the philosopher Michael Sandel argues in What Money Can't Buy, market values crowd out non-market values. Markets change the meaning of the things we discuss, replacing moral obligations with commercial relationships. This corrupts and degrades our intrinsic values and empties public life of moral argument.

https://www.theguardian.com/commentisfree/2018/may/15/price-natural-world-destruction-natural-capital

Clarifications

Misunderstood

Not Understood

Backcasting: planning method that starts by defining a desirable future and then works backwards to identify policies and programs that have the potential to connect this future to the present.

Robinson (1990)

Participatory Modeling/table to games: We will come back to this

Conceptual models/Stock and Flow Models: We will come back to this

How is every wicked problem a symptom of another issue? Let's discuss examples.

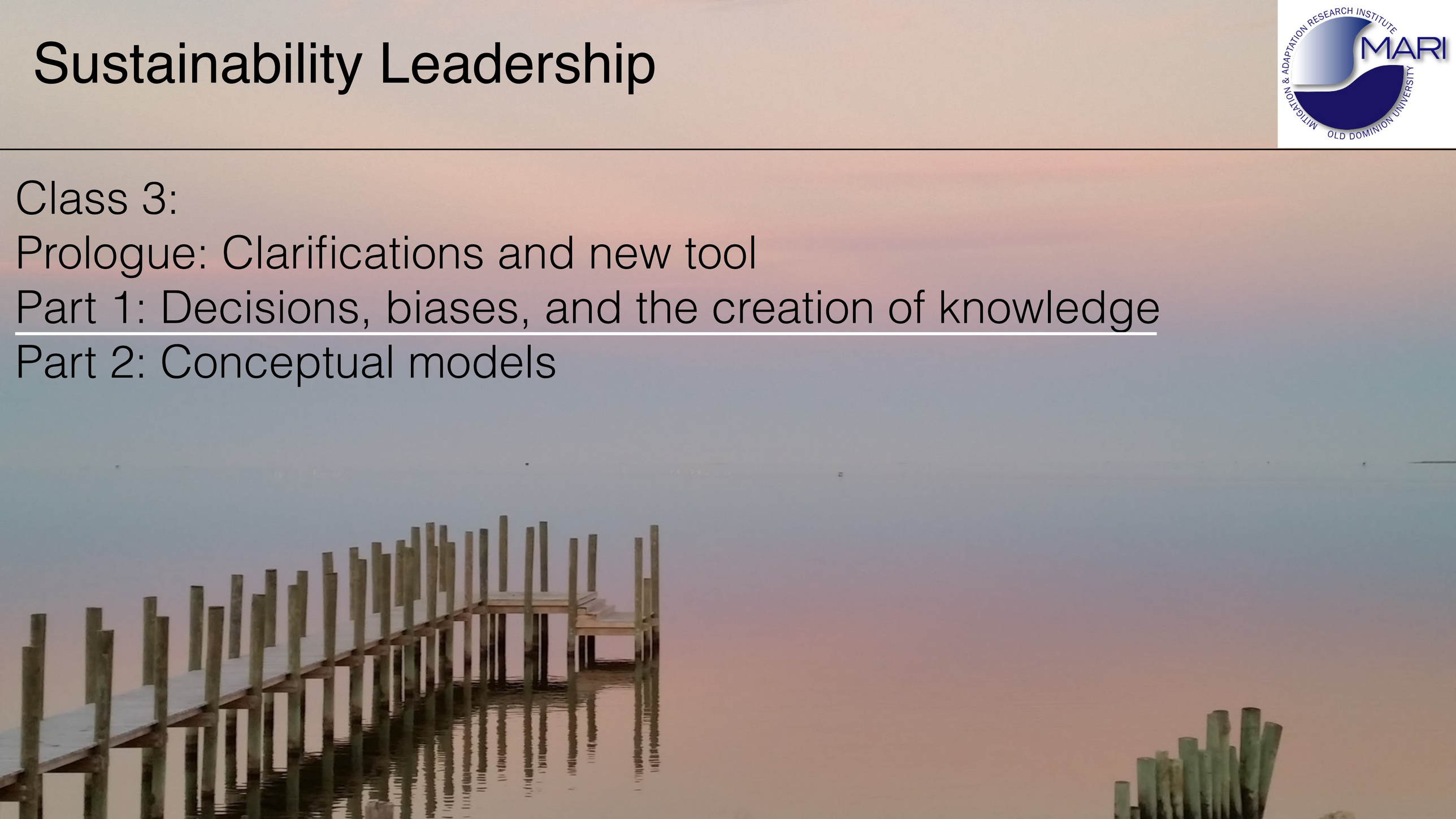
Irrationality of current mainstream economy discounting the future

Why does China not want our plastics anymore?

Relevance of social capital

Sustainability Leadership

Class 3:
Prologue: Clarifications and new tool
Part 1: Decisions, biases, and the creation of knowledge
Part 2: Conceptual models



Decisions and Human Nature

Credit: Impact Hub Network/Flickr under Creative Commons license

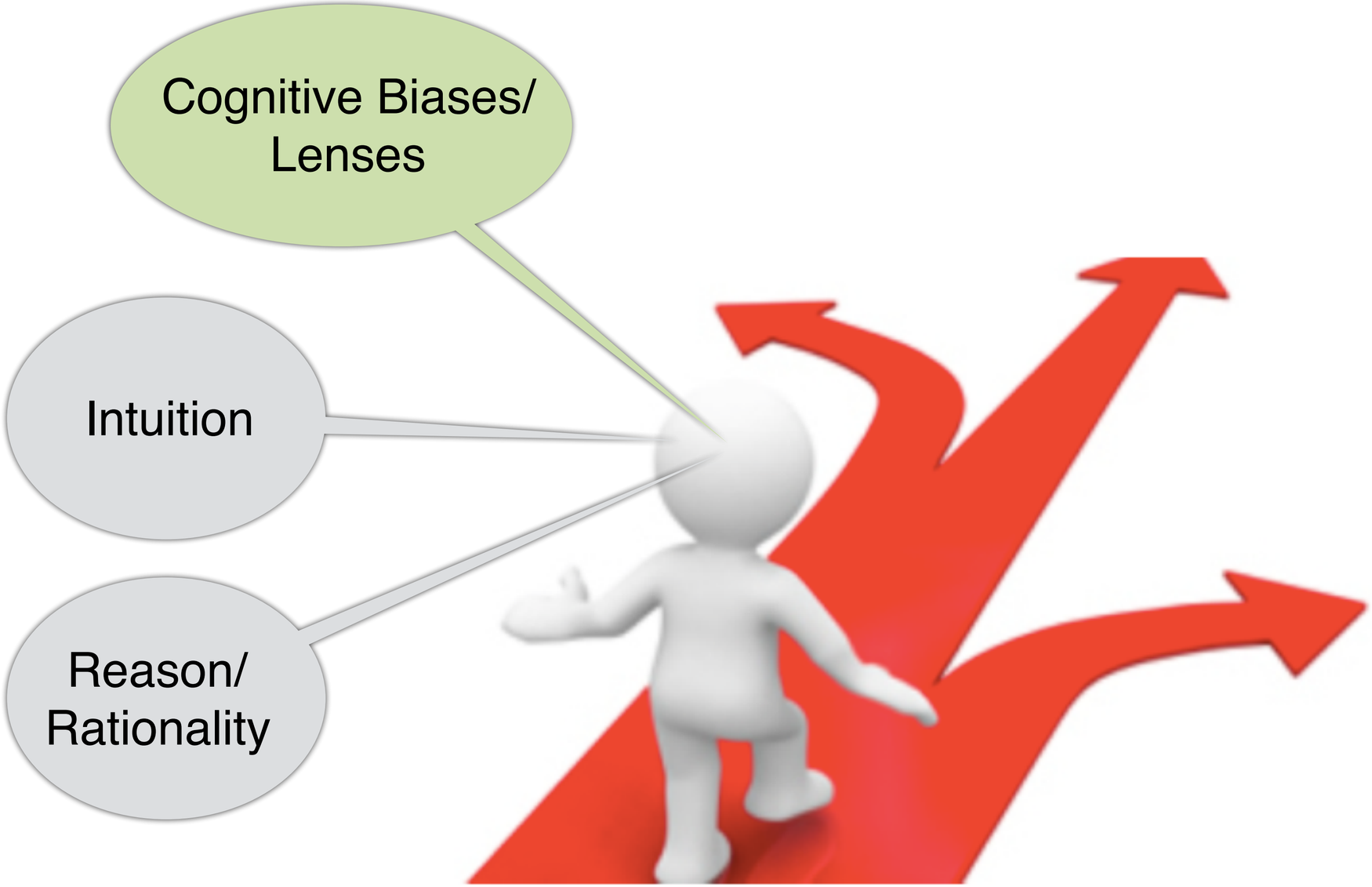
Decisions and Human Nature

Credit: Impact Hub Network/Flickr under Creative Commons license

Decisions and Human Nature

Credit: Impact Hub Network/Flickr under Creative Commons license

Decisions and Human Nature



Credit: Impact Hub Network/Flickr under Creative Commons license

Decisions and Human Nature

Cognitive Biases/ Lenses

Intuition

Reason/ Rationality

The decisions we make

Credit: Impact Hub Network/Flickr under Creative Commons license

Decisions and Human Nature

The world we see

Cognitive Biases/ Lenses

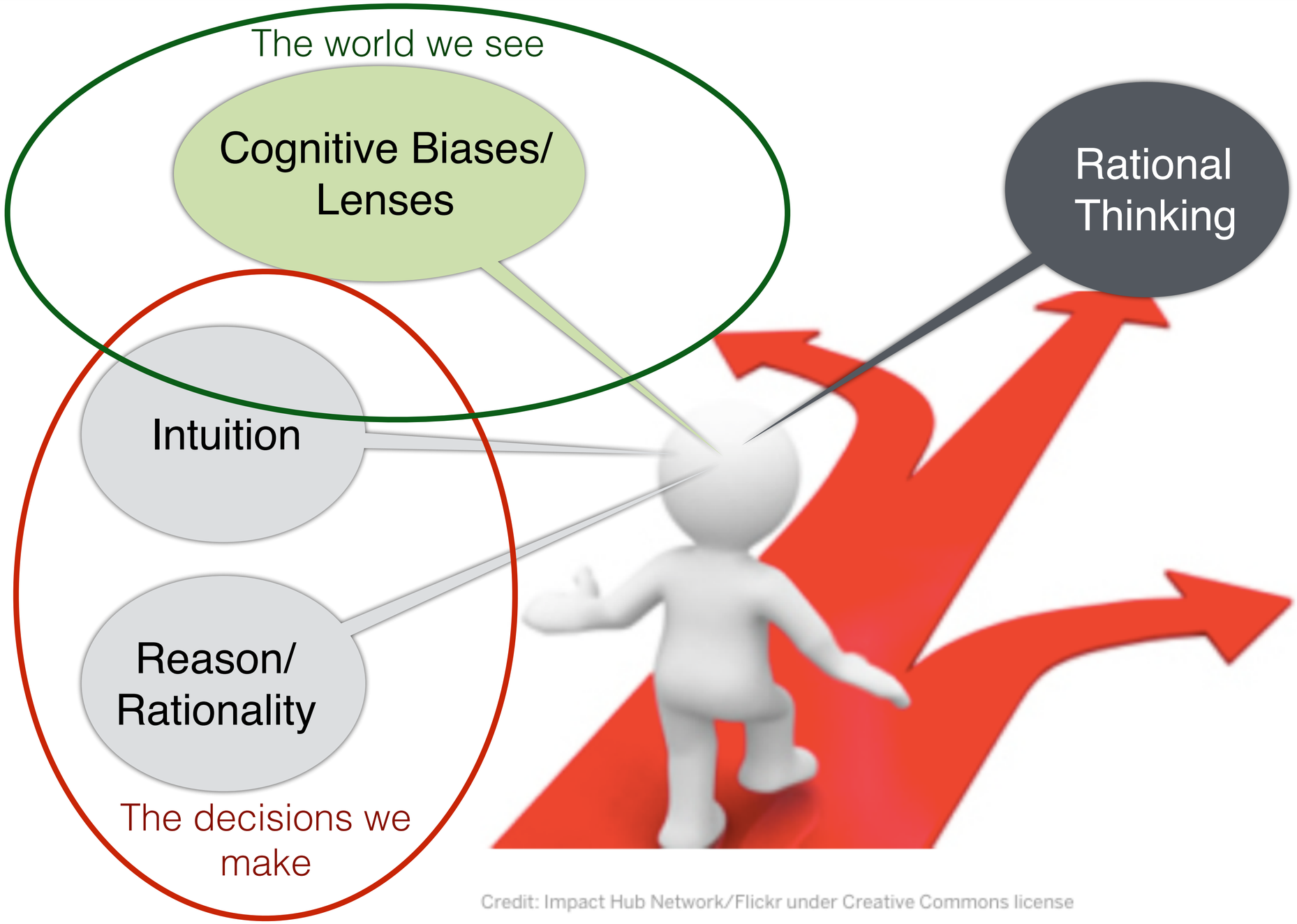
Intuition

Reason/ Rationality

The decisions we make

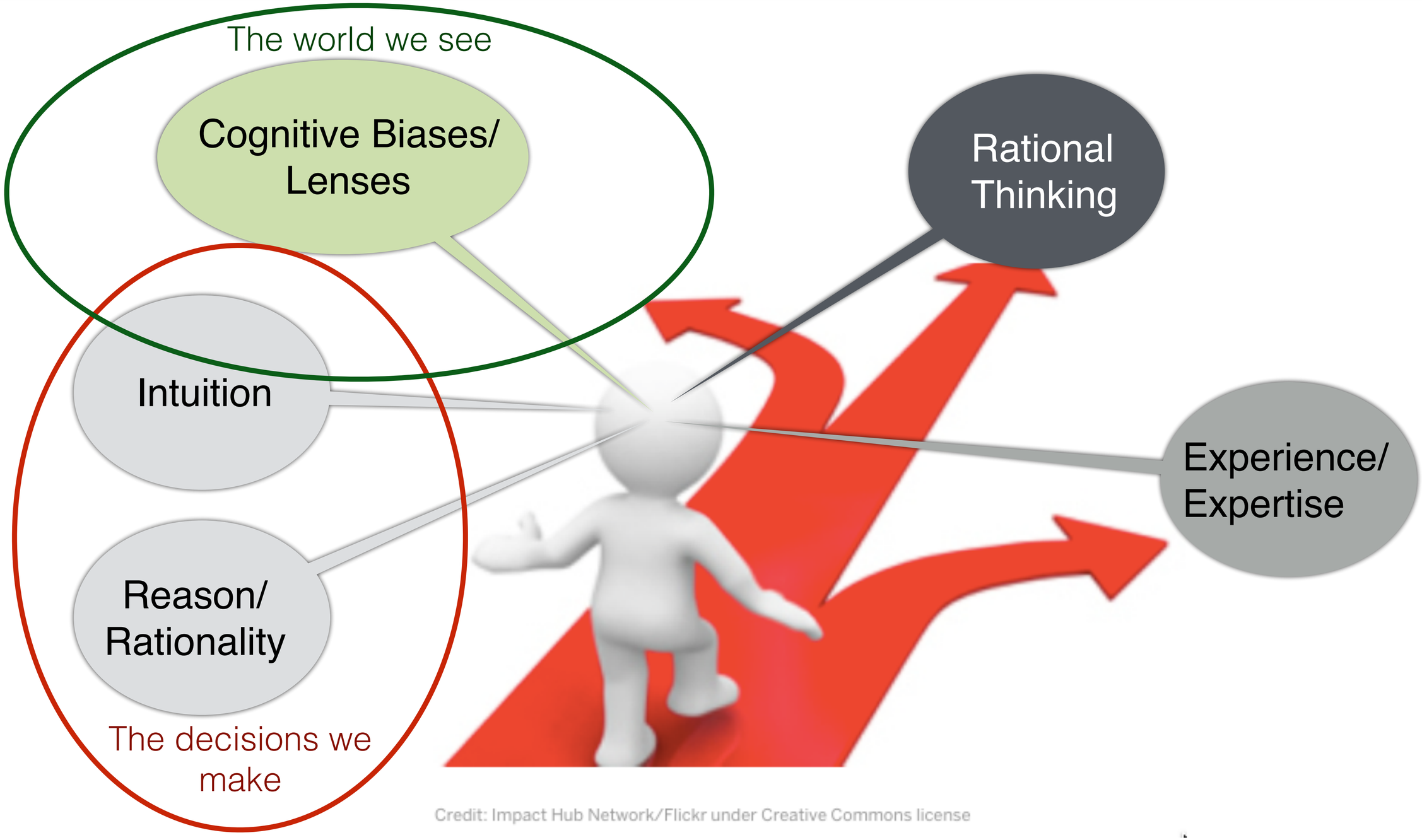
Credit: Impact Hub Network/Flickr under Creative Commons license

Decisions and Human Nature



Credit: Impact Hub Network/Flickr under Creative Commons license

Decisions and Human Nature



Decisions and Human Nature

The world we see

Cognitive Biases/ Lenses

Intuition

Reason/ Rationality

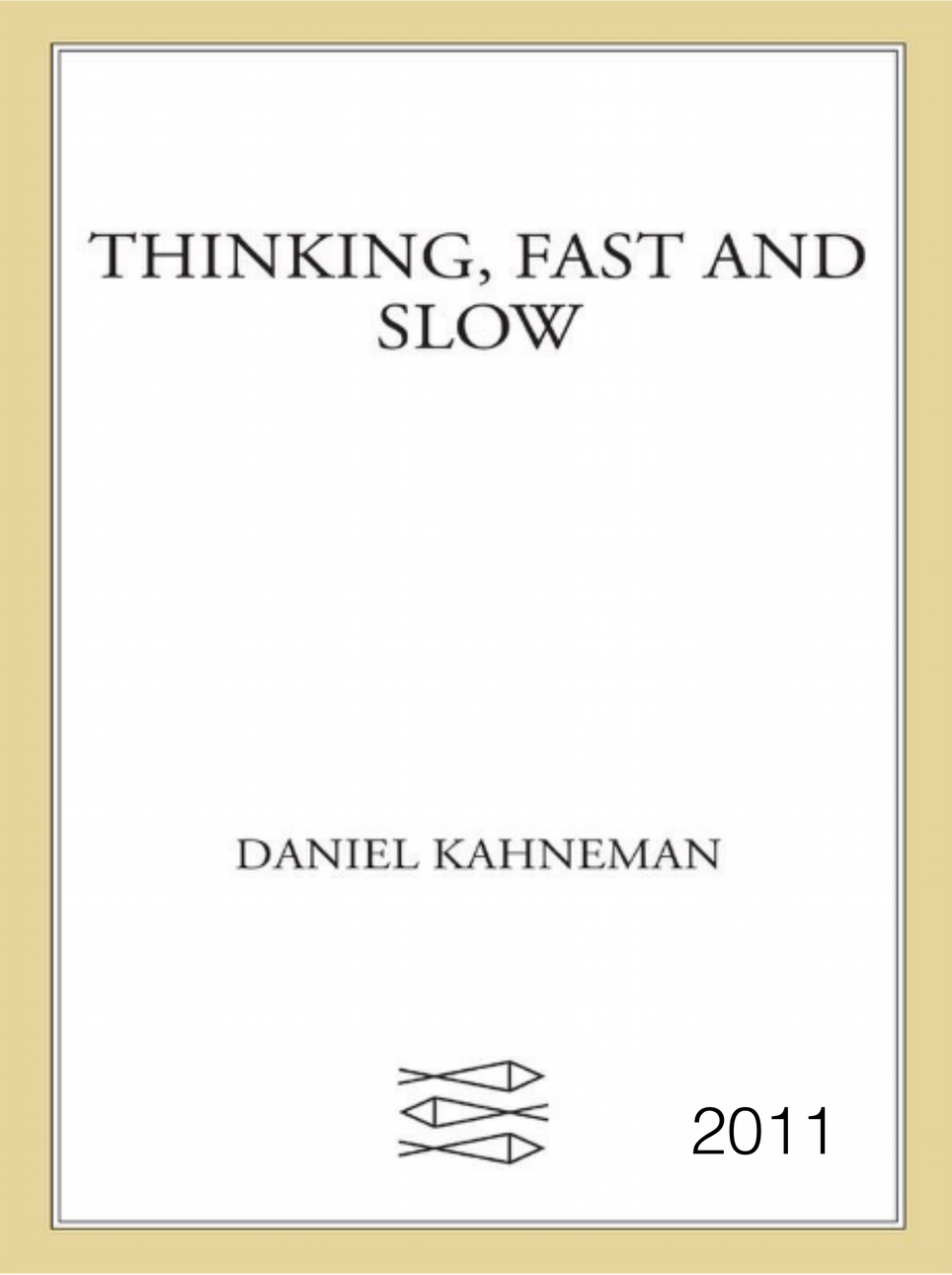
The decisions we make

Slow Thinking

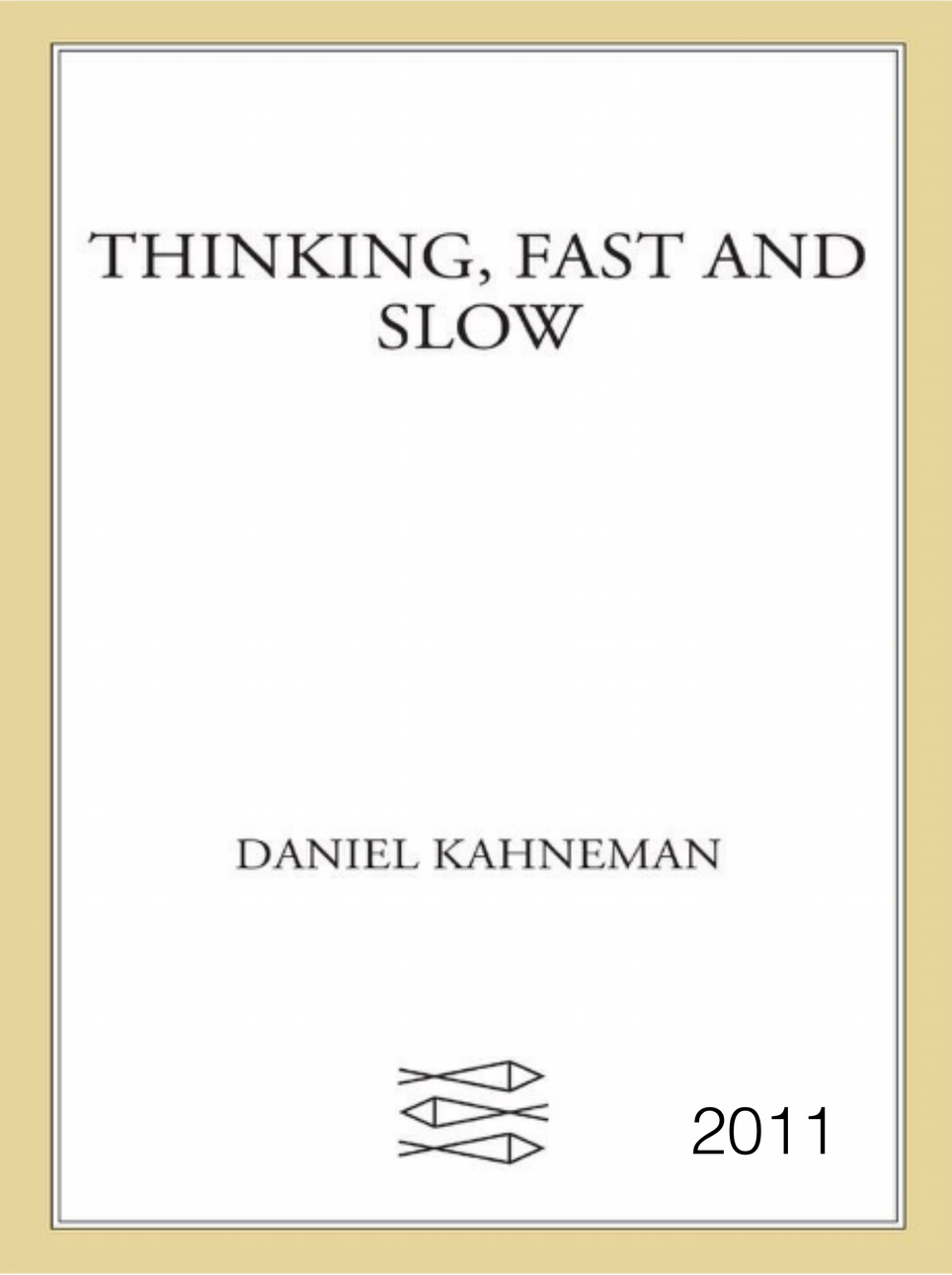
Fast Thinking

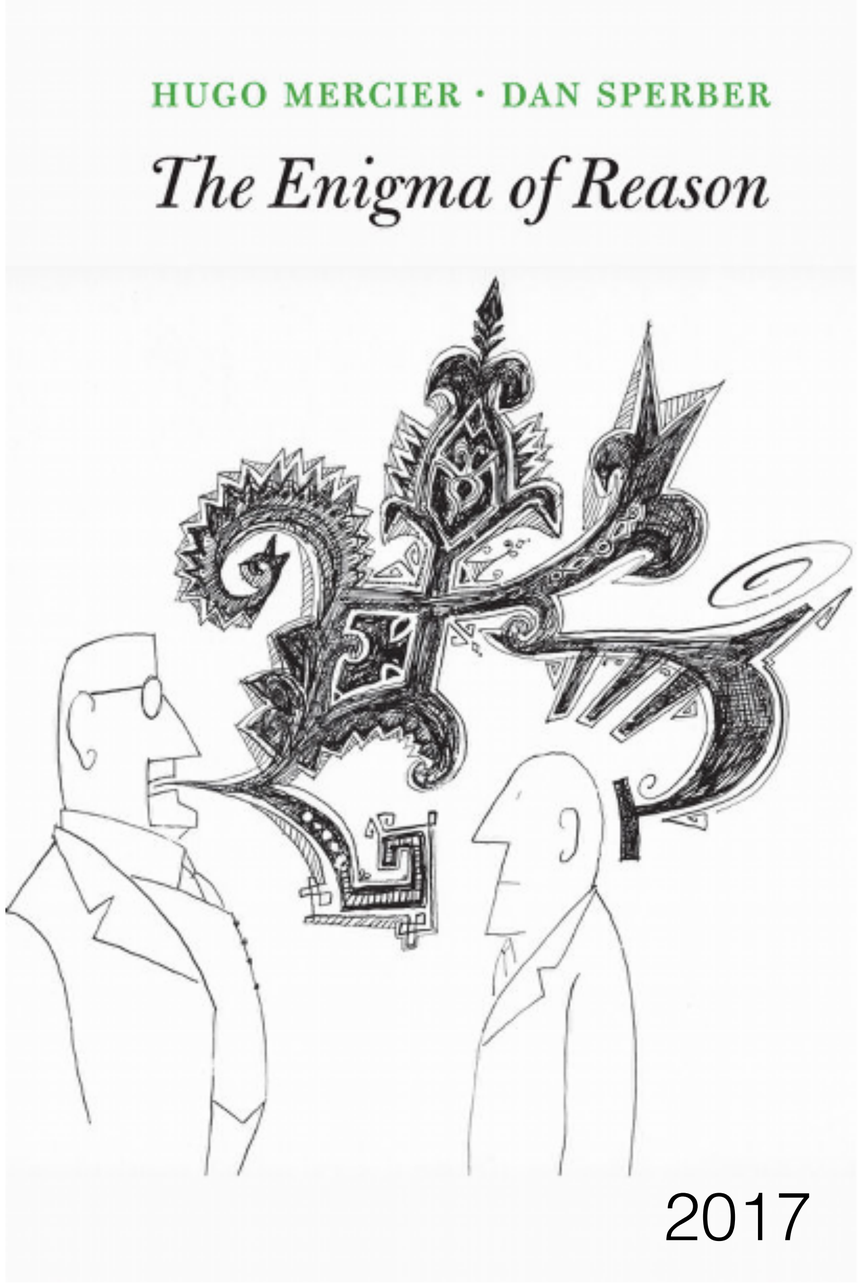
Credit: Impact Hub Network/Flickr under Creative Commons license

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason

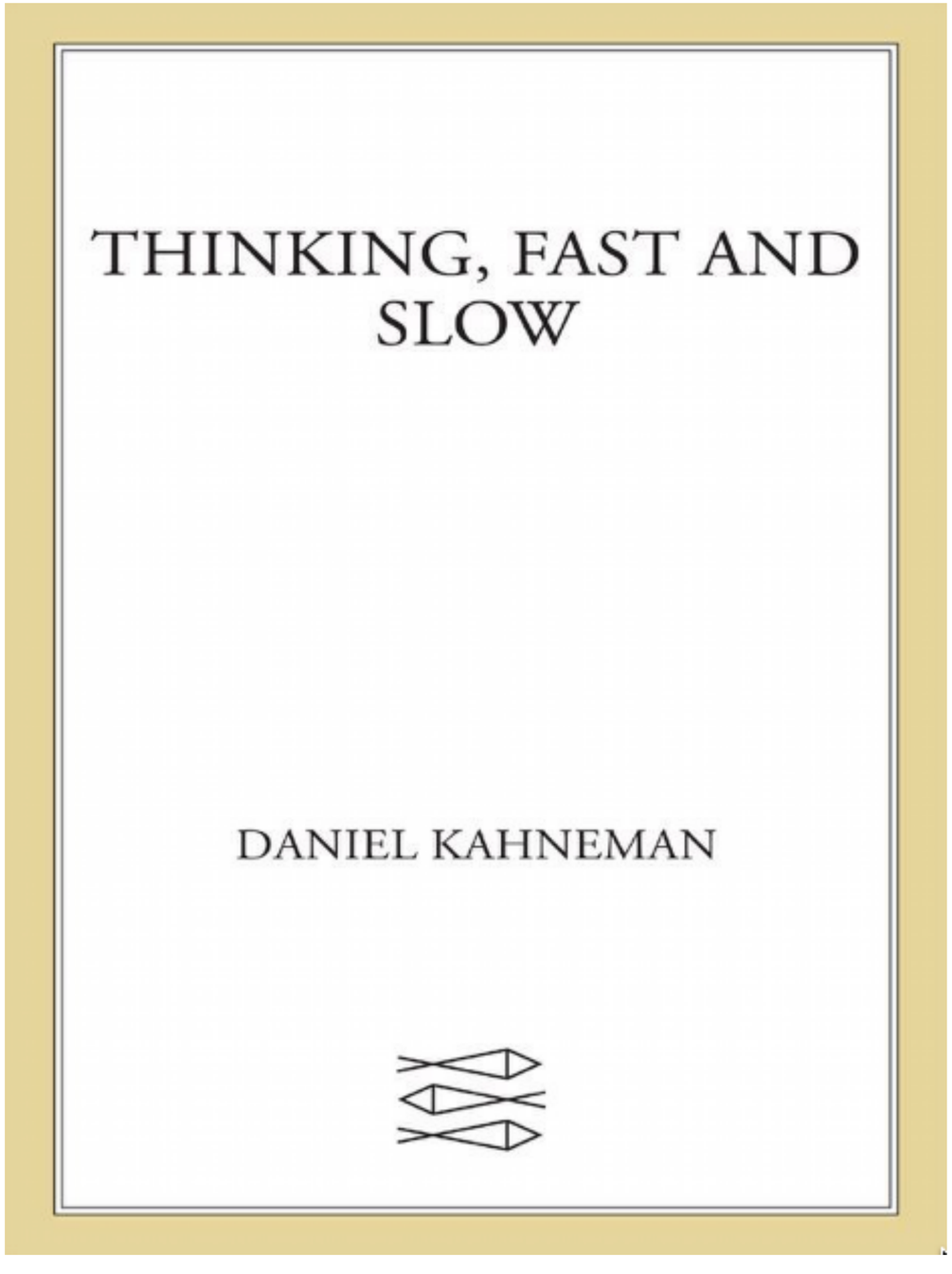


Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason

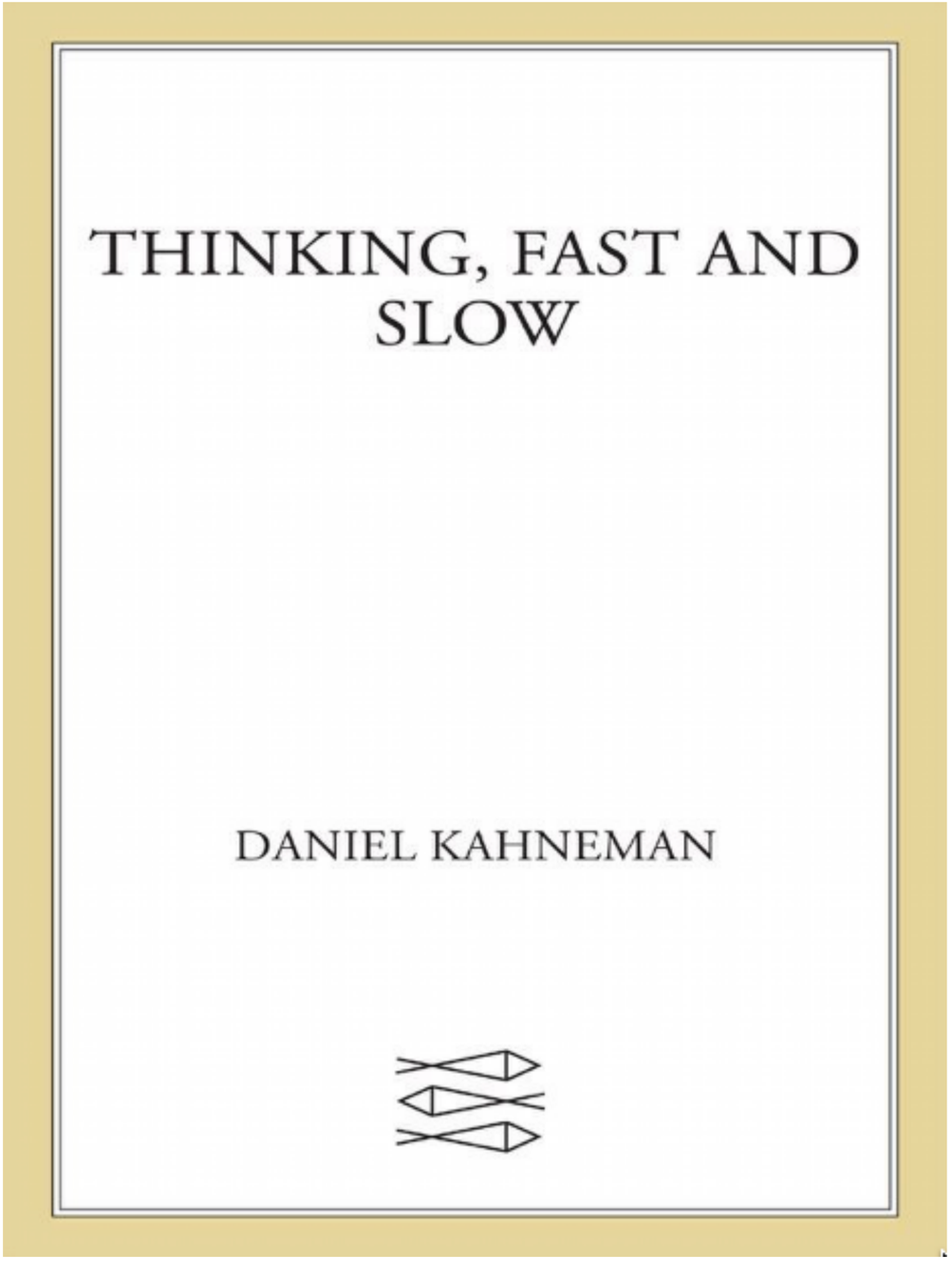




Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason



Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason

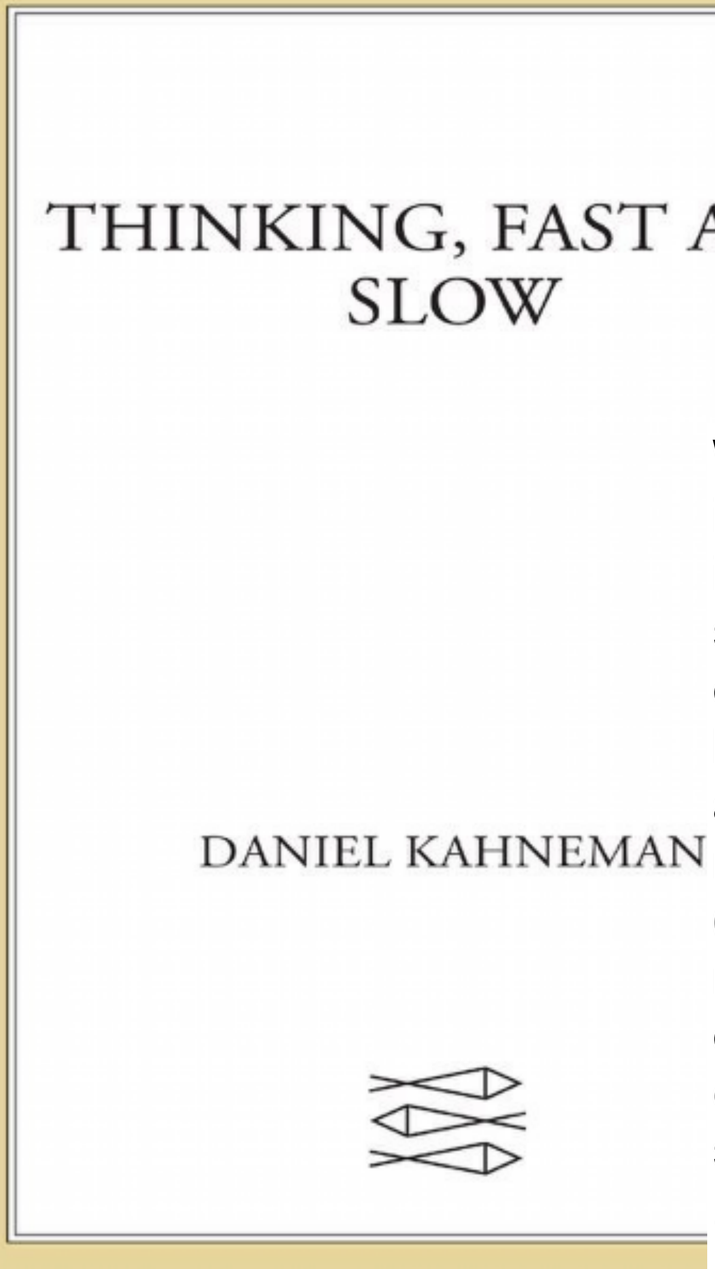


Herbert Simon on Intuition:

"The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition."

Kahneman, Daniel. Thinking, Fast and Slow (p. 11). Farrar, Straus and Giroux. Kindle Edition.

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason



Herbert Simon on Intuition:

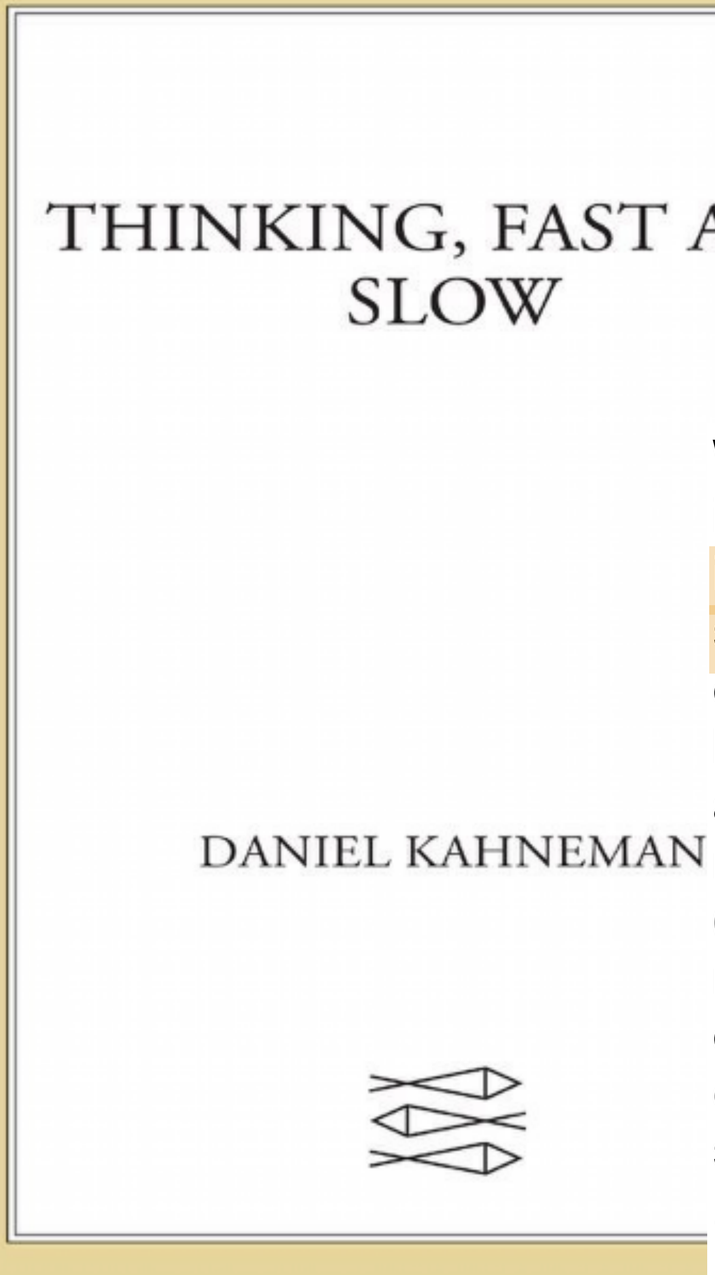
"The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition."

Kahneman, Daniel. Thinking, Fast and Slow (p. 11). Farrar, Straus and Giroux. Kindle Edition.

When confronted with a problem— choosing a chess move or deciding whether to invest in a stock— the machinery of intuitive thought does the best it can. If the individual has relevant expertise, she will recognize the situation, and the intuitive solution that comes to her mind is likely to be correct. This is what happens when a chess master looks at a complex position: the few moves that immediately occur to him are all strong. When the question is difficult and a skilled solution is not available, intuition still has a shot: an answer may come to mind quickly— but it is not an answer to the original question. The question that the executive faced (should I invest in Ford stock?) was difficult, but the answer to an easier and related question (do I like Ford cars?) came readily to his mind and determined his choice. This is the essence of intuitive heuristics: when faced with a difficult question, we often answer an easier one instead, usually without noticing the substitution.

Kahneman, Daniel. Thinking, Fast and Slow (p. 12). Farrar, Straus and Giroux. Kindle Edition.

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason



Herbert Simon on Intuition:

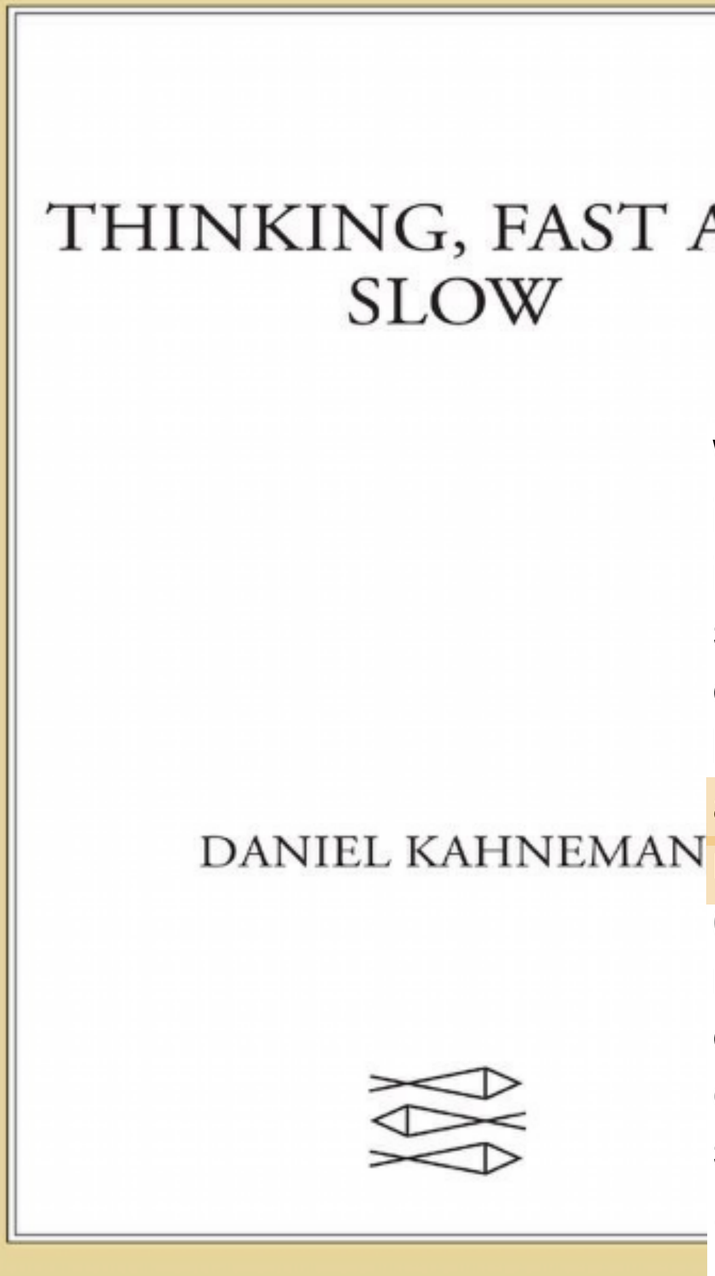
"The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition."

Kahneman, Daniel. Thinking, Fast and Slow (p. 11). Farrar, Straus and Giroux. Kindle Edition.

When confronted with a problem— choosing a chess move or deciding whether to invest in a stock— the machinery of intuitive thought does the best it can. If the individual has relevant expertise, she will recognize the situation, and the intuitive solution that comes to her mind is likely to be correct. This is what happens when a chess master looks at a complex position: the few moves that immediately occur to him are all strong. When the question is difficult and a skilled solution is not available, intuition still has a shot: an answer may come to mind quickly— but it is not an answer to the original question. The question that the executive faced (should I invest in Ford stock?) was difficult, but the answer to an easier and related question (do I like Ford cars?) came readily to his mind and determined his choice. This is the essence of intuitive heuristics: when faced with a difficult question, we often answer an easier one instead, usually without noticing the substitution.

Kahneman, Daniel. Thinking, Fast and Slow (p. 12). Farrar, Straus and Giroux. Kindle Edition.

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason



Herbert Simon on Intuition:

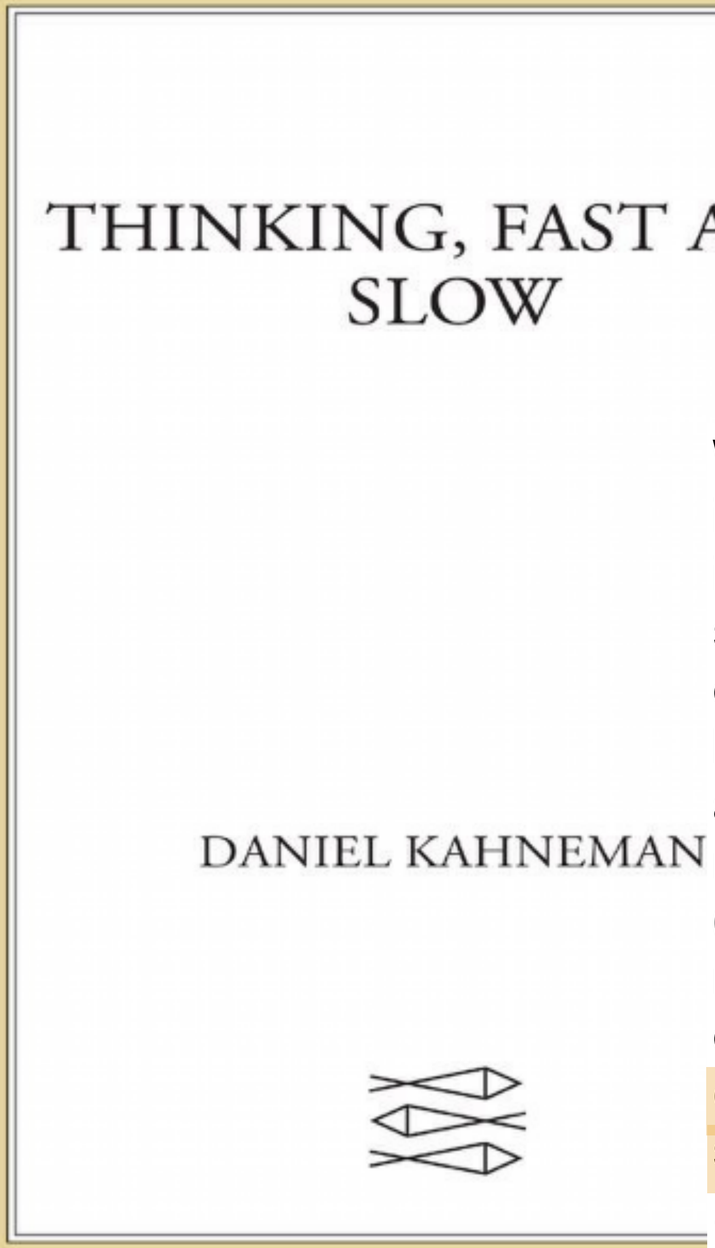
"The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition."

Kahneman, Daniel. Thinking, Fast and Slow (p. 11). Farrar, Straus and Giroux. Kindle Edition.

When confronted with a problem— choosing a chess move or deciding whether to invest in a stock— the machinery of intuitive thought does the best it can. If the individual has relevant expertise, she will recognize the situation, and the intuitive solution that comes to her mind is likely to be correct. This is what happens when a chess master looks at a complex position: the few moves that immediately occur to him are all strong. When the question is difficult and a skilled solution is not available, intuition still has a shot: an answer may come to mind quickly— but it is not an answer to the original question. The question that the executive faced (should I invest in Ford stock?) was difficult, but the answer to an easier and related question (do I like Ford cars?) came readily to his mind and determined his choice. This is the essence of intuitive heuristics: when faced with a difficult question, we often answer an easier one instead, usually without noticing the substitution.

Kahneman, Daniel. Thinking, Fast and Slow (p. 12). Farrar, Straus and Giroux. Kindle Edition.

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason



Herbert Simon on Intuition:

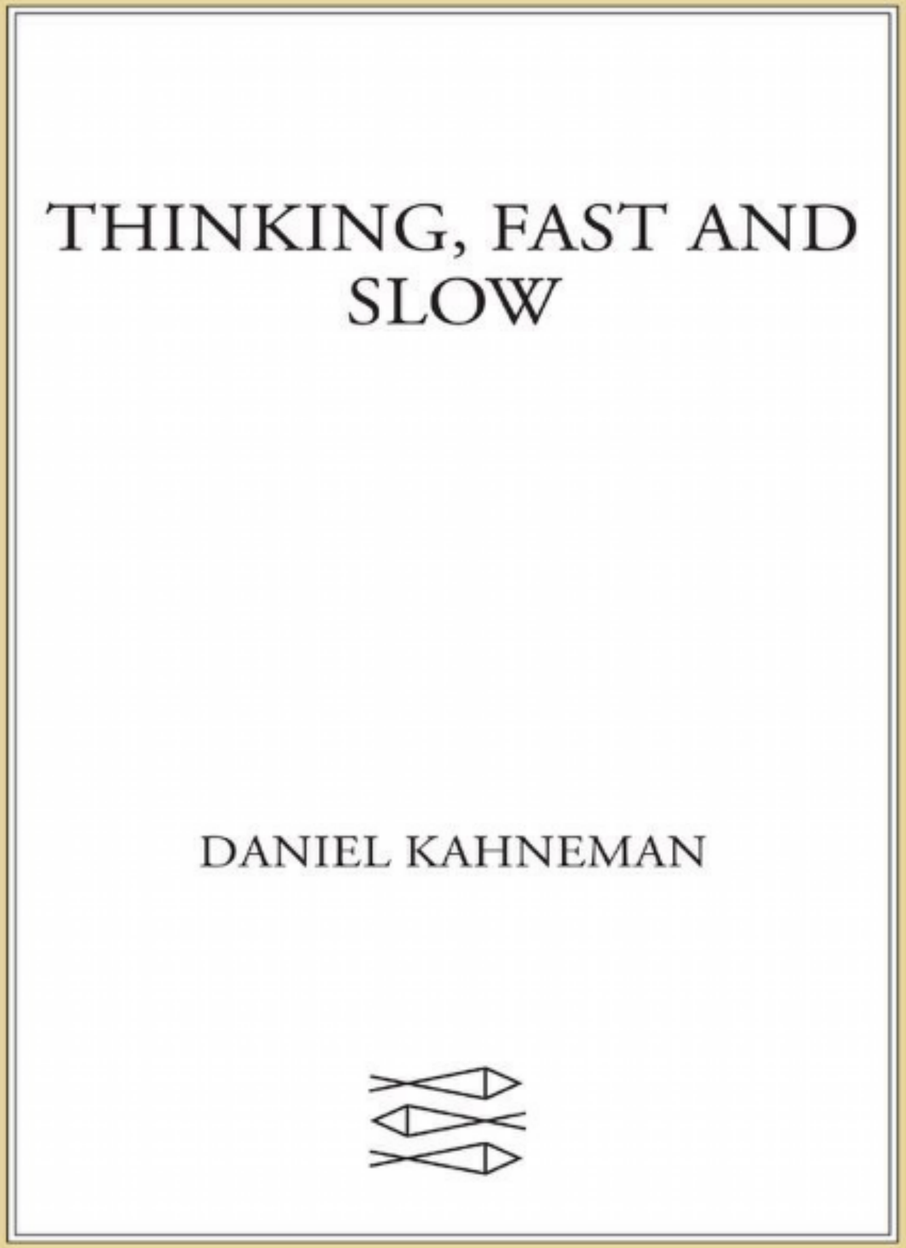
"The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition."

Kahneman, Daniel. Thinking, Fast and Slow (p. 11). Farrar, Straus and Giroux. Kindle Edition.

When confronted with a problem— choosing a chess move or deciding whether to invest in a stock— the machinery of intuitive thought does the best it can. If the individual has relevant expertise, she will recognize the situation, and the intuitive solution that comes to her mind is likely to be correct. This is what happens when a chess master looks at a complex position: the few moves that immediately occur to him are all strong. When the question is difficult and a skilled solution is not available, intuition still has a shot: an answer may come to mind quickly— but it is not an answer to the original question. The question that the executive faced (should I invest in Ford stock?) was difficult, but the answer to an easier and related question (do I like Ford cars?) came readily to his mind and determined his choice. This is the essence of intuitive heuristics: when faced with a difficult question, we often answer an easier one instead, usually without noticing the substitution.

Kahneman, Daniel. Thinking, Fast and Slow (p. 12). Farrar, Straus and Giroux. Kindle Edition.

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason



The spontaneous search for an intuitive solution sometimes fails—neither an expert solution nor a heuristic answer comes to mind. In such cases we often find ourselves switching to a slower, more deliberate and effortful form of thinking. This is the slow thinking of the title. Fast thinking includes both variants of intuitive thought— the expert and the heuristic— as well as the entirely automatic mental activities of perception and memory, the operations that enable you to know there is a lamp on your desk or retrieve the name of the capital of Russia.

Kahneman, Daniel. Thinking, Fast and Slow (p. 13). Farrar, Straus and Giroux. Kindle Edition.

Conclusions

I began this book by introducing two fictitious characters, spent some time discussing two species, and ended with two selves. The two characters were the intuitive System 1, which does the fast thinking, and the effortful and slower System 2, which does the slow thinking, monitors System 1, and maintains control as best it can within its limited resources. The two species were the fictitious Econs, who live in the land of theory, and the Humans, who act in the real world. The two selves are the experiencing self, which does the living, and the remembering self, which keeps score and makes the choices.

Kahneman, Daniel. Thinking, Fast and Slow (p. 408). Farrar, Straus and Giroux. Kindle Edition.

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason

Two Selves

The possibility of conflicts between the remembering self and the interests of the experiencing self turned out to be a harder problem than I initially thought.

The remembering self's neglect of duration, its exaggerated emphasis on peaks and ends, and its susceptibility to hindsight combine to yield distorted reflections of our actual experience.

The remembering self is a construction of System 2. However, the distinctive features of the way it evaluates episodes and lives are characteristics of our memory. Duration neglect and the peak-end rule originate in System 1 and do not necessarily correspond to the values of System 2. We believe that duration is important, but our memory tells us it is not. The rules that govern the evaluation of the past are poor guides for decision making, because time does matter. The central fact of our existence is that time is the ultimate finite resource, but the remembering self ignores that reality. The neglect of duration combined with the peak-end rule causes a bias that favors a short period of intense joy over a long period of moderate happiness. The mirror image of the same bias makes us fear a short period of intense but tolerable suffering more than we fear a much longer period of moderate pain. Duration neglect also makes us prone to accept a long period of mild unpleasantness because the end will be better, and it favors giving up an opportunity for a long happy period if it is likely to have a poor ending.

Kahneman, Daniel. Thinking, Fast and Slow (p. 409). Farrar, Straus and Giroux. Kindle Edition.

System 2

Two Selves

The possibility of conflicts between the remembering self and the interests of the experiencing self turned out to be a harder problem than I initially thought.

The remembering self's neglect of duration, its exaggerated emphasis on peaks and ends, and its susceptibility to hindsight combine to yield distorted reflections of our actual experience.

The remembering self is a construction of System 2. However, the distinctive features of the way it evaluates episodes and lives are characteristics of our memory. Duration neglect and the peak-end rule originate in System 1 and do not necessarily correspond to the values of System 2. We believe that duration is important, but our memory tells us it is not. The rules that govern the evaluation of the past are poor guides for decision making, because time does matter. The central fact of our existence is that time is the ultimate finite resource, but the remembering self ignores that reality. The neglect of duration combined with the peak-end rule causes a bias that favors a short period of intense joy over a long period of moderate happiness. The mirror image of the same bias makes us fear a short period of intense but tolerable suffering more than we fear a much longer period of moderate pain. Duration neglect also makes us prone to accept a long period of mild unpleasantness because the end will be better, and it favors giving up an opportunity for a long happy period if it is likely to have a poor ending.

Kahneman, Daniel. Thinking, Fast and Slow (p. 409). Farrar, Straus and Giroux. Kindle Edition.

System 2

System 1

Two Selves

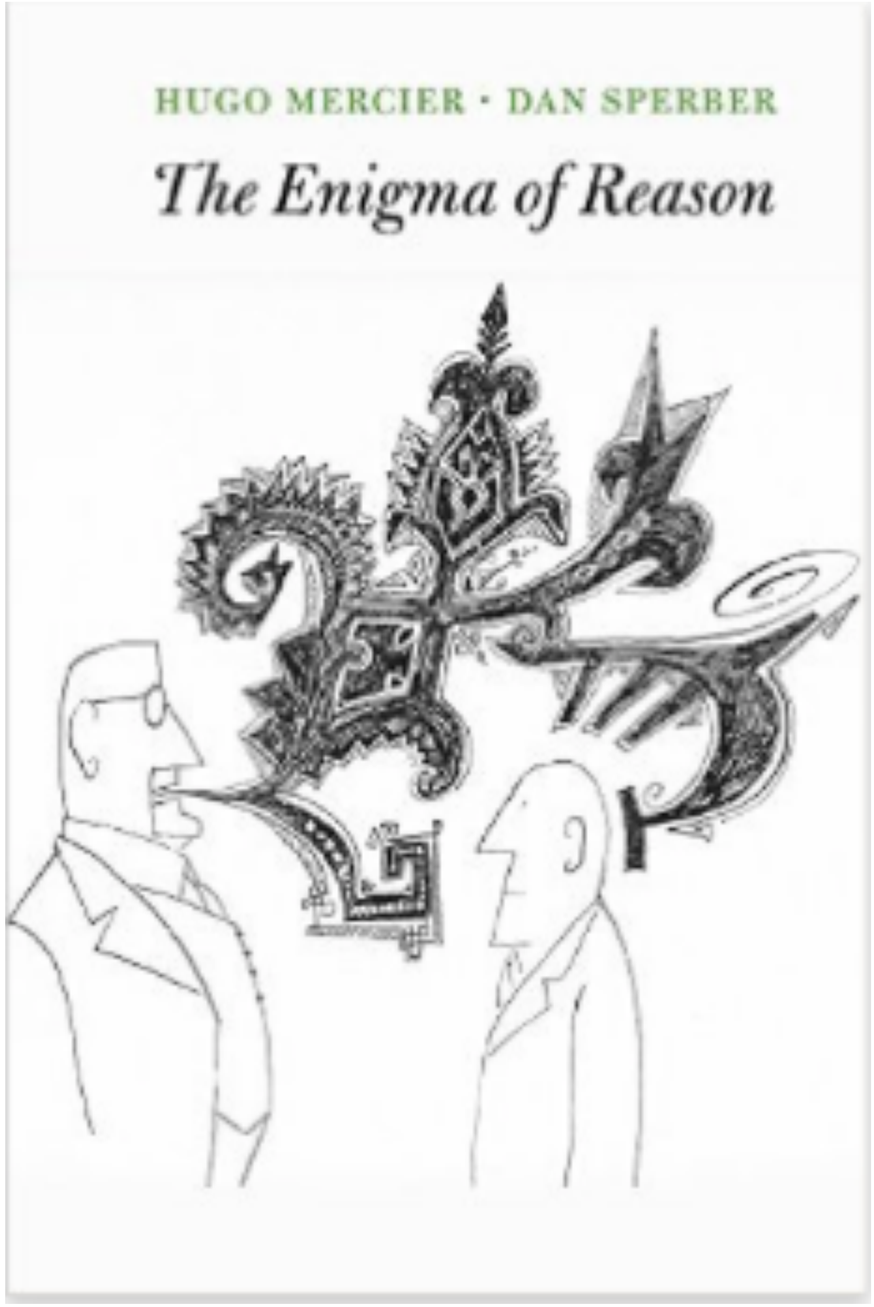
The possibility of conflicts between the remembering self and the interests of the experiencing self turned out to be a harder problem than I initially thought.

The remembering self's neglect of duration, its exaggerated emphasis on peaks and ends, and its susceptibility to hindsight combine to yield distorted reflections of our actual experience.

The remembering self is a construction of System 2. However, the distinctive features of the way it evaluates episodes and lives are characteristics of our memory. Duration neglect and the peak-end rule originate in System 1 and do not necessarily correspond to the values of System 2. We believe that duration is important, but our memory tells us it is not. The rules that govern the evaluation of the past are poor guides for decision making, because time does matter. The central fact of our existence is that time is the ultimate finite resource, but the remembering self ignores that reality. The neglect of duration combined with the peak-end rule causes a bias that favors a short period of intense joy over a long period of moderate happiness. The mirror image of the same bias makes us fear a short period of intense but tolerable suffering more than we fear a much longer period of moderate pain. Duration neglect also makes us prone to accept a long period of mild unpleasantness because the end will be better, and it favors giving up an opportunity for a long happy period if it is likely to have a poor ending.

Kahneman, Daniel. Thinking, Fast and Slow (p. 409). Farrar, Straus and Giroux. Kindle Edition.

Decision and Human Nature: Fast and Slow Thinking - The Enigma of Reason



Reason, we are told, is what makes us human, the source of our knowledge and wisdom. If reason is so useful, why didn't it also evolve in other animals? If reason is that reliable, why do we produce so much thoroughly reasoned nonsense? In their groundbreaking account of the evolution and workings of reason, Hugo Mercier and Dan Sperber set out to solve this double enigma. Reason, they argue with a compelling mix of real-life and experimental evidence, is not geared to solitary use, to arriving at better beliefs and decisions on our own. What reason does, rather, is help us justify our beliefs and actions to others, convince them through argumentation, and evaluate the justifications and arguments that others address to us.

In other words, reason helps humans better exploit their uniquely rich social environment. This interactionist interpretation explains why reason may have evolved and how it fits with other cognitive mechanisms. It makes sense of strengths and weaknesses that have long puzzled philosophers and psychologists—why reason is biased in favor of what we already believe, why it may lead to terrible ideas and yet is indispensable to spreading good ones.

Decision and Human Nature: Biases

Behavioral economics studies the effects of psychological, social, cognitive, and emotional factors on the economic decisions of individuals and institutions and the consequences for market prices, returns, and resource allocation, although not always that narrowly, but also more generally, of the impact of different kinds of behavior, in different environments of varying experimental values.

https://en.wikipedia.org/wiki/Behavioral_economics

Decision and Human Nature: Biases

Behavioral economics studies the effects of psychological, social, cognitive, and emotional factors on the economic decisions of individuals and institutions and the consequences for market prices, returns, and resource allocation, although not always that narrowly, but also more generally, of the impact of different kinds of behavior, in different environments of varying experimental values.

https://en.wikipedia.org/wiki/Behavioral_economics

THE BEHAVIORAL ECONOMICS OF DECISION MAKING

Daniel Kahneman (the lead author) and Amos Tversky introduced the idea of cognitive biases, and their impact on decision making, in 1974. Their research and ideas were recognized when Kahneman was awarded a Nobel Prize in economics in 2002. These biases, and behavioral psychology generally, have since captured the imagination of business experts.

Decision and Human Nature: Biases

Behavioral economics studies the effects of psychological, social, cognitive, and emotional factors on the economic decisions of individuals and institutions and the consequences for market prices, returns, and resource allocation, although not always that narrowly, but also more generally, of the impact of different kinds of behavior, in different environments of varying experimental values.

https://en.wikipedia.org/wiki/Behavioral_economics

THE BEHAVIORAL ECONOMICS OF DECISION MAKING
Daniel Kahneman (the lead author) and Amos Tversky introduced the idea of cognitive biases, and their impact on decision making, in 1974. Their research and ideas were recognized when Kahneman was awarded a Nobel Prize in economics in 2002. These biases, and behavioral psychology generally, have since captured the imagination of business experts.

Some notable popular books on this topic:

Thaler, R. H., Sunstein, C. R., 2008. Nudge: Improving Decisions About Health, Wealth, and Happiness, Caravan.

Mauboussin, M. J., 2009. Think Twice: Harnessing the Power of Counterintuition, Harvard Business Review Press.

Finkelstein, S., Whitehead, J., Campbell, A., 2009. Think Again: Why Good Leaders Make Bad Decisions and How to Keep It from Happening to You, Harvard Business Review Press.

Ariely, D., 2008. Predictably Irrational: The Hidden Forces That Shape Our Decisions, HarperCollins.

Kahneman, D., 2011. Thinking, Fast and Slow, Farrar, Straus and Giroux.

Kahneman, D., Lovallo, D., Sibony, O., 2011. Before you make that decision. Harvard Business Review, June 2011, 51-60.

Decision and Human Nature: Biases

20 cognitive biases that screw up your decisions

Samantha Lee and Shana Lebowitz
Aug. 26, 2015, 12:28 PM 285,981 3

You make thousands of rational decisions every day — or so you think.

From what you'll eat throughout the day to whether you should make a big career move, research suggests that there are a number of cognitive stumbling blocks that affect your behavior, and they can prevent you from acting in your own best interests.

Here, we've rounded up the most common biases that screw up our decision-making.

20 COGNITIVE BIASES THAT SCREW UP YOUR DECISIONS

1. Anchoring bias.

People are **over-reliant** on the first piece of information they hear. In a salary negotiation, whoever makes the first offer establishes a range of reasonable possibilities in each person's mind.

2. Availability heuristic.

People **overestimate the importance** of information that is available to them. A person might argue that smoking is not unhealthy because they know someone who lived to 100 and smoked three packs a day.

3. Bandwagon effect.

The probability of one person adopting a belief increases based on the number of people who hold that belief. This is a powerful form of **groupthink** and is reason why meetings are often unproductive.

4. Blind-spot bias.

Failing to recognize your own cognitive biases is a bias in itself. People notice cognitive and motivational biases much more in others than in themselves.

5. Choice-supportive bias.

When you choose something, you tend to feel positive about it, even if that **choice has flaws**. Like how you think your dog is awesome — even if it bites people every once in a while.

6. Clustering illusion.

This is the tendency to **see patterns in random events**. It is key to various gambling fallacies, like the idea that red is more or less likely to turn up on a roulette table after a string of reds.

7. Confirmation bias.

We tend to listen only to information that confirms our **preconceptions** — one of the many reasons it's so hard to have an intelligent conversation about climate change.

8. Conservatism bias.

Where people favor prior evidence over new evidence or information that has emerged. People were **slow to accept** that the Earth was round because they maintained their earlier understanding that the planet was flat.

9. Information bias.

The tendency to **seek information when it does not affect action**. More information is not always better. With less information, people can often make more accurate predictions.

10. Ostrich effect.

The decision to **ignore dangerous or negative information** by "burying" one's head in the sand, like an ostrich. Research suggests that investors check the value of their holdings significantly less often during bad markets.

11. Outcome bias.

Judging a decision based on the **outcome** — rather than how exactly the decision was made in the moment. Just because you won a lot in Vegas doesn't mean gambling your money was a smart decision.

12. Overconfidence.

Some of us are **too confident about our abilities**, and this causes us to take greater risks in our daily lives. Experts are more prone to this bias than laypeople, since they are more convinced that they are right.

13. Placebo effect.

When **simply believing** that something will have a certain effect on you causes it to have that effect. In medicine, people given fake pills often experience the same physiological effects as people given the real thing.

14. Pro-innovation bias.

When a proponent of an innovation tends to **overvalue its usefulness** and undervalue its limitations. Sound familiar, Silicon Valley?

15. Recency.

The tendency to weigh the **latest information** more heavily than older data. Investors often think the market will always look the way it looks today and make unwise decisions.

16. Salience.

Our tendency to focus on the **most easily recognizable features** of a person or concept. When you think about dying, you might worry about being mauled by a lion, as opposed to what is statistically more likely, like dying in a car accident.

17. Selective perception.

Allowing our expectations to **influence how we perceive** the world. An experiment involving a football game between students from two universities showed that one team saw the opposing team commit more infractions.

18. Stereotyping.

Expecting a group or person to have certain qualities without having real information about the person. It allows us to quickly identify strangers as friends or enemies, but people tend to **overuse and abuse** it.

19. Survivorship bias.

An error that comes from focusing only on surviving examples, causing us to **misjudge a situation**. For instance, we might think that being an entrepreneur is easy because we haven't heard of all those who failed.

20. Zero-risk bias.

Sociologists have found that **we love certainty** — even if it's counterproductive. Eliminating risk entirely means there is no chance of harm being caused.

SOURCES: Brain Biases; Ethics Unwrapped; Explorable; Harvard Magazine; HowStuffWorks; LearnVest; Outcome bias in decision evaluation, Journal of Personality and Social Psychology; Psychology Today; The Bias Blind Spot: Perceptions of Bias in Self Versus Others, Personality and Social Psychology Bulletin; The Cognitive Effects of Mass Communication, Theory and Research in Mass Communications; The less-is-more effect: Predictions and tests, Judgment and Decision Making; The New York Times; The Wall Street Journal; Wikipedia; You Are Not So Smart; ZhurnalyWiki

BUSINESS INSIDER

Decision and Human Nature: Biases

1. Anchoring bias.

People are **over-reliant** on the first piece of information they hear. In a salary negotiation, whoever makes the first offer establishes a range of reasonable possibilities in each person's mind.

2. Availability heuristic.

People **overestimate the importance** of information that is available to them. A person might argue that smoking is not unhealthy because they know someone who lived to 100 and smoked three packs a day.

3. Bandwagon effect.

The probability of one person adopting a belief increases based on the number of people who hold that belief. This is a powerful form of **groupthink** and is reason why meetings are often unproductive.

4. Blind-spot bias.

Failing to recognize your own cognitive biases is a bias in itself. People notice cognitive and motivational biases much more in others than in themselves.

5. Choice-supportive bias.

When you choose something, you tend to feel positive about it, even if that **choice has flaws**. Like how you think your dog is awesome — even if it bites people every once in a while.

6. Clustering illusion.

This is the tendency to **see patterns in random events**. It is key to various gambling fallacies, like the idea that red is more or less likely to turn up on a roulette table after a string of reds.

7. Confirmation bias.

We tend to listen only to information that confirms our **preconceptions** — one of the many reasons it's so hard to have an intelligent conversation about climate change.

8. Conservatism bias.

Where people favor prior evidence over new evidence or information that has emerged. People were **slow to accept** that the Earth was round because they maintained their earlier understanding that the planet was flat.

Decision and Human Nature: Biases

HBR.ORG

Dangerous biases can creep into every strategic choice. Here's how to find them—before they lead you astray. *by Daniel Kahneman, Dan Lovallo, and Olivier Sibony*

Before You Make That Big Decision...

THANKS TO a slew of popular new books, many executives today realize how biases can distort reasoning in business. *Confirmation bias*, for instance, leads people to ignore evidence that contradicts their preconceived notions. *Anchoring* causes them to weigh one piece of information too heavily in making decisions; *loss aversion* makes them too cautious. In our experience, however, awareness of the effects of biases has done little to improve the quality of business decisions at either the individual or the organizational level.

Though there may now be far more talk of biases among managers, talk alone will not eliminate them. But it is possible to take steps to counteract them. A recent McKinsey study of more than 1,000 major business investments showed that when organizations worked at reducing the effect of bias in their decision-making processes, they achieved returns up to seven percentage points higher. (For more on this study, see "The Case for Behavioral Strategy," *McKinsey Quarterly*, March 2010.) Reducing bias makes a difference. In this article, we will describe

ILLUSTRATION: LASSE SKARBOVIK

THE BIG IDEA BEFORE YOU MAKE THAT BIG DECISION...

CHALLENGE QUESTIONS

Ask the recommenders

4

CHECK FOR SALIENCY BIAS

Could the diagnosis be overly influenced by an analogy to a memorable success?

Ask for more analogies, and rigorously analyze their similarity to the current situation.

5

CHECK FOR CONFIRMATION BIAS

Are credible alternatives included along with the recommendation?

Request additional options.

6

CHECK FOR AVAILABILITY BIAS

If you had to make this decision again in a year's time, what information would you want, and can you get more of it now?

Use checklists of the data needed for each kind of decision.

7

CHECK FOR ANCHORING BIAS

Do you know where the numbers came from? Can there be ...unsubstantiated numbers? ...extrapolation from history? ...a motivation to use a certain anchor?

Reanchor with figures generated by other models or benchmarks, and request new analysis.

8

CHECK FOR HALO EFFECT

Is the team assuming that a person, organization, or approach that is successful in one area will be just as successful in another?

Eliminate false inferences, and ask the team to seek additional comparable examples.

EVALUATION QUESTIONS

Ask about the proposal

10

CHECK FOR OVERCONFIDENCE, PLANNING FALLACY, OPTIMISTIC BIASES, COMPETITOR NEGLECT

Is the base case overly optimistic?

Have the team build a case taking an outside view; use war games.

11

CHECK FOR DISASTER NEGLECT

Is the worst case bad enough?

Have the team conduct a premortem: Imagine that the worst has happened, and develop a story about the causes.

12

CHECK FOR LOSS AVERSION

Is the recommending team overly cautious?

Realign incentives to share responsibility for the risk or to remove risk.

Decision and Human Nature: Biases

Dangerous biases can creep into every strategic choice. Here's how to find them—before they lead you astray. *by Daniel Kahneman, Dan Lovallo, and Olivier Sibony*

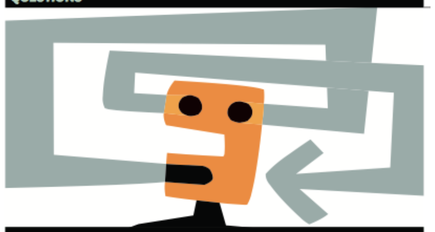
Before You Make That Big Decision...

THANKS TO a slew of popular new books, many executives today realize how biases can distort reasoning in business. *Confirmation bias*, for instance, leads people to ignore evidence that contradicts their preconceived notions. *Anchoring* causes them to weigh one piece of information too heavily in making decisions; *loss aversion* makes them too cautious. In our experience, however, awareness of the effects of biases has done little to improve the quality of business decisions at either the individual or the organizational level.

Though there may now be far more talk of biases among managers, talk alone will not eliminate them. But it is possible to take steps to counteract them. A recent McKinsey study of more than 1,000 major business investments showed that when organizations worked at reducing the effect of bias in their decision-making processes, they achieved returns up to seven percentage points higher. (For more on this study, see "The Case for Behavioral Strategy," *McKinsey Quarterly*, March 2010.) Reducing bias makes a difference. In this article, we will describe

ILLUSTRATION: LASSE SKARBOVIK

PRELIMINARY QUESTIONS



Ask yourself

1 CHECK FOR SELF-INTERESTED BIASES

Is there any reason to suspect the team making the recommendation of errors motivated by self-interest?

Review the proposal with extra care, especially for overoptimism.

2 CHECK FOR THE AFFECT HEURISTIC

Has the team fallen in love with its proposal?

Rigorously apply all the quality controls on the checklist.

3 CHECK FOR GROUPTHINK

Were there dissenting opinions within the team?

Were they explored adequately?

Solicit dissenting views, discreetly if necessary.

THE BIG IDEA BEFORE YOU MAKE THAT BIG DECISION...

CHALLENGE QUESTIONS

Ask the recommenders

4 CHECK FOR SALIENCY BIAS

Could the diagnosis be overly influenced by an analogy to a memorable success?

Ask for more analogies, and rigorously analyze their similarity to the current situation.

5 CHECK FOR CONFIRMATION BIAS

Are credible alternatives included along with the recommendation?

Request additional options.

6 CHECK FOR AVAILABILITY BIAS

If you had to make this decision again in a year's time, what information would you want, and can you get more of it now?

Use checklists of the data needed for each kind of decision.

7 CHECK FOR ANCHORING BIAS

Do you know where the numbers came from? Can there be ...unsubstantiated numbers? ...extrapolation from history? ...a motivation to use a certain anchor?

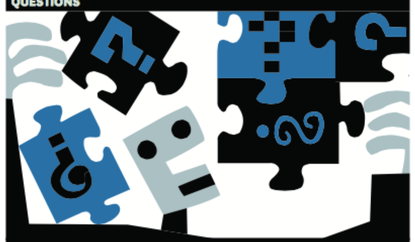
Reanchor with figures generated by other models or benchmarks, and request new analysis.

8 CHECK FOR HALO EFFECT

Is the team assuming that a person, organization, or approach that is successful in one area will be just as successful in another?

Eliminate false inferences, and ask the team to seek additional comparable examples.

EVALUATION QUESTIONS



Ask about the proposal

10 CHECK FOR OVERCONFIDENCE, PLANNING FALLACY, OPTIMISTIC BIASES, COMPETITOR NEGLECT

Is the base case overly optimistic?

Have the team build a case taking an outside view; use war games.

11 CHECK FOR DISASTER NEGLECT

Is the worst case bad enough?

Have the team conduct a premortem: Imagine that the worst has happened, and develop a story about the causes.

12 CHECK FOR LOSS AVERSION

Is the recommending team overly cautious?

Realign incentives to share responsibility for the risk or to remove risk.

Decisions, Biases, and the Creation of Knowledge

Individual and collective intelligence

Integrated knowledge and information create and shape consciousness

Knowledge cultures as a nested system (adapted from Brown 2008)

CULTURE AND CONTENT

INDIVIDUAL KNOWLEDGE
Own lived experience, lifestyle choices, learning style, identity
Content: identity, reflections, ideas

LOCAL COMMUNITY KNOWLEDGE
Shared lived experience of individuals, families, businesses, communities
Content: stories, events, histories

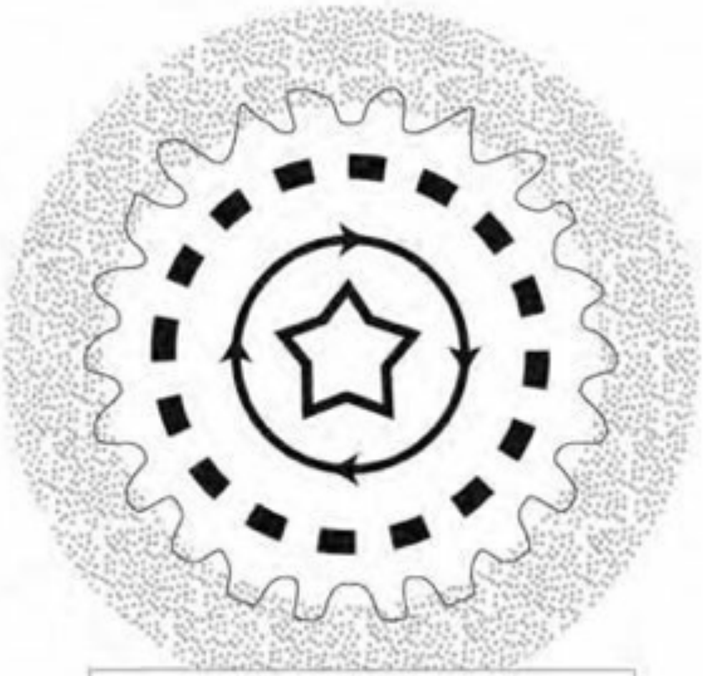
SPECIALISED KNOWLEDGE
Environment and health science, finance, engineering, law, philosophy, etc.
Content: case studies, experiments

ORGANIZATIONAL KNOWLEDGE
Organizational governance, policy development, legislation, market
Content: agendas, alliances, planning

HOLISTIC KNOWLEDGE
Core of the matter, vision of the future, a common purpose, aim of sustainability
Content: symbol, vision, ideal

KEY

NESTED KNOWLEDGES



COLLECTIVE KNOWLEDGE
All the decision-making knowledges generating a synergy make up the mandala of collective knowledge.

Content: from individuals, local community, specialized interests, influential organizations, and holistic inquiries

Source: Pant (2009)

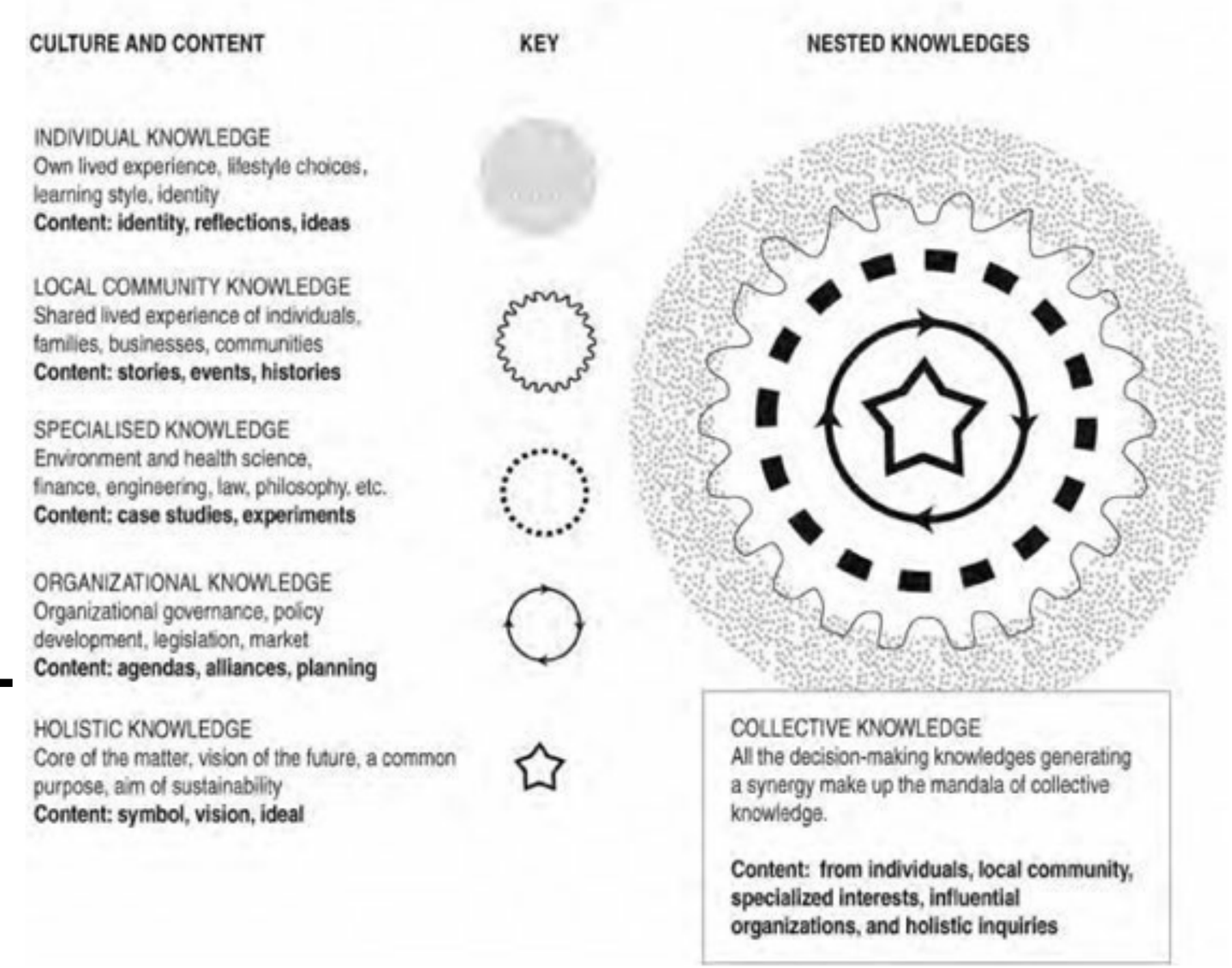
Decisions, Biases, and the Creation of Knowledge

Individual and collective intelligence

Individual, community and cultural Biases:

Integrated knowledge and information create and shape consciousness

Knowledge cultures as a nested system (adapted from Brown 2008)



Source: Pant (2009)

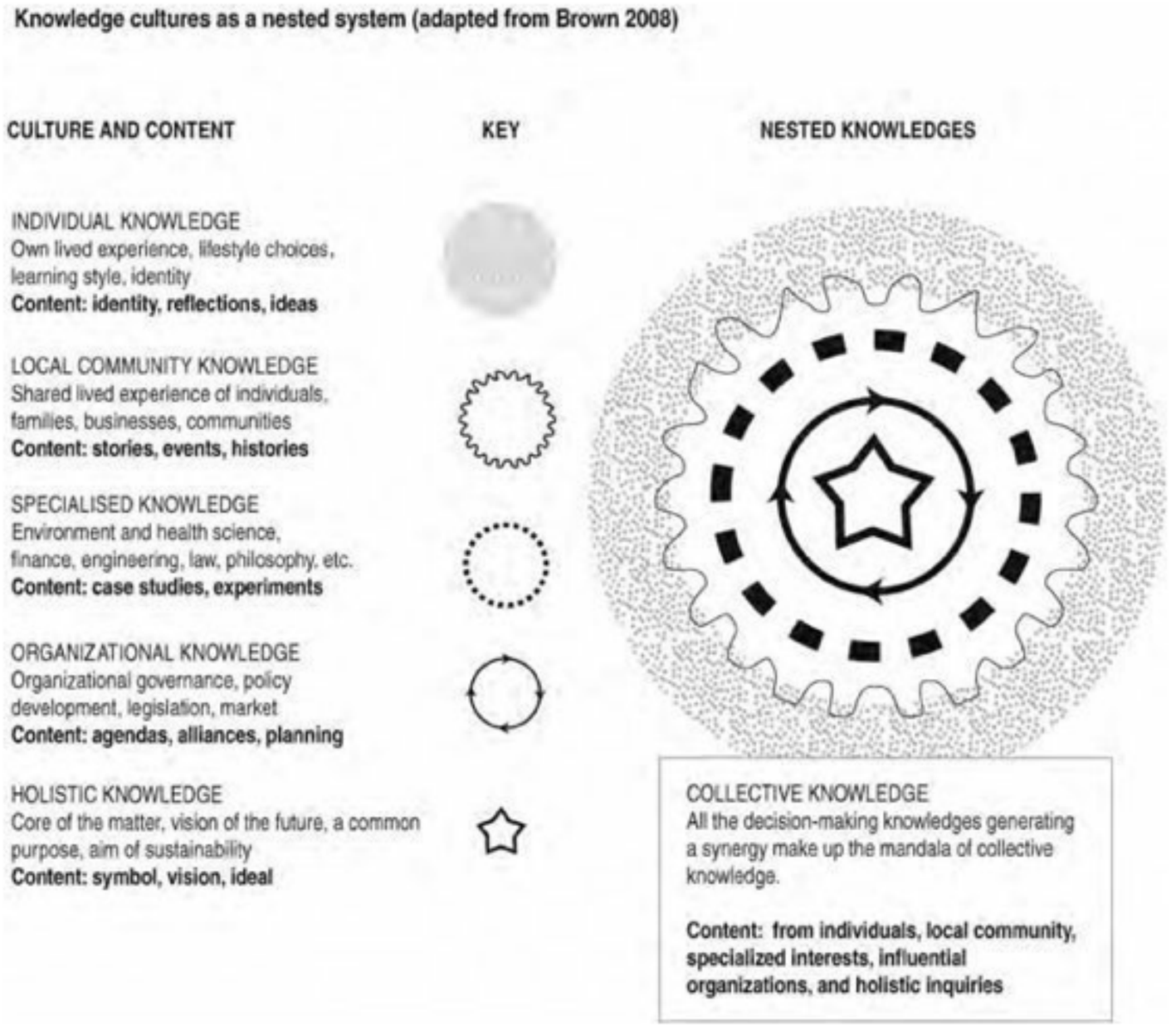
Decisions, Biases, and the Creation of Knowledge

Individual and collective intelligence

Individual, community and cultural Biases:

- immutable truth

Integrated knowledge and information create and shape consciousness



Source: Pant (2009)

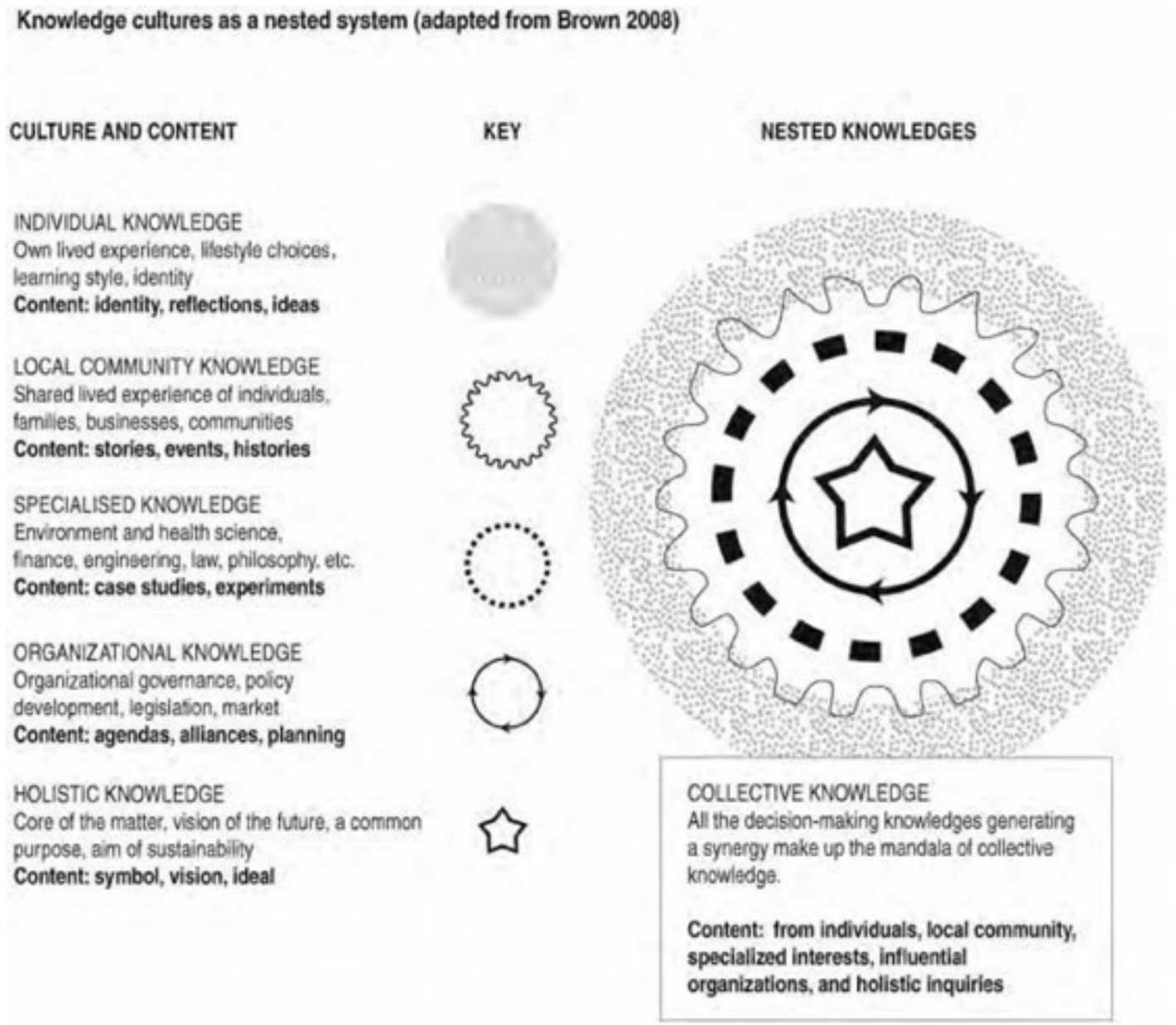
Decisions, Biases, and the Creation of Knowledge

Individual and collective intelligence

Individual, community and cultural Biases:

- immutable truth
- partisan biases

Integrated knowledge and information create and shape consciousness



Source: Pant (2009)

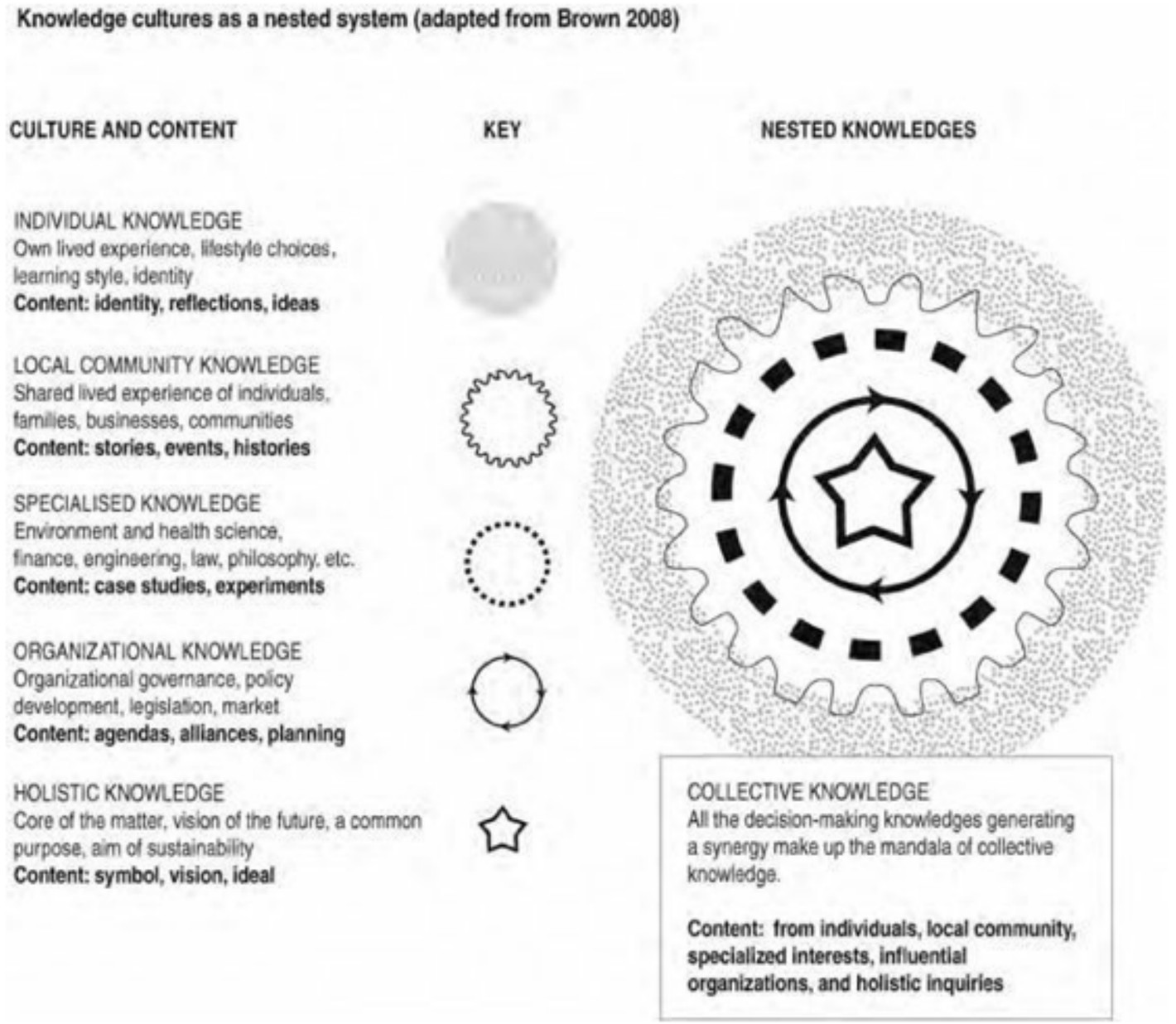
Decisions, Biases, and the Creation of Knowledge

Individual and collective intelligence

Individual, community and cultural Biases:

- immutable truth
- partisan biases
- nature of human beings

Integrated knowledge and information create and shape consciousness



Source: Pant (2009)

Decisions, Biases, and the Creation of Knowledge

Community and Cultural Biases - Example: Perception of threats

Community and Cultural Biases - Example: Perception of threats

AVAILABILITY BIAS

The psychology of why 94 deaths from terrorism are scarier than 301,797 deaths from guns

Community and Cultural Biases - Example: Perception of threats

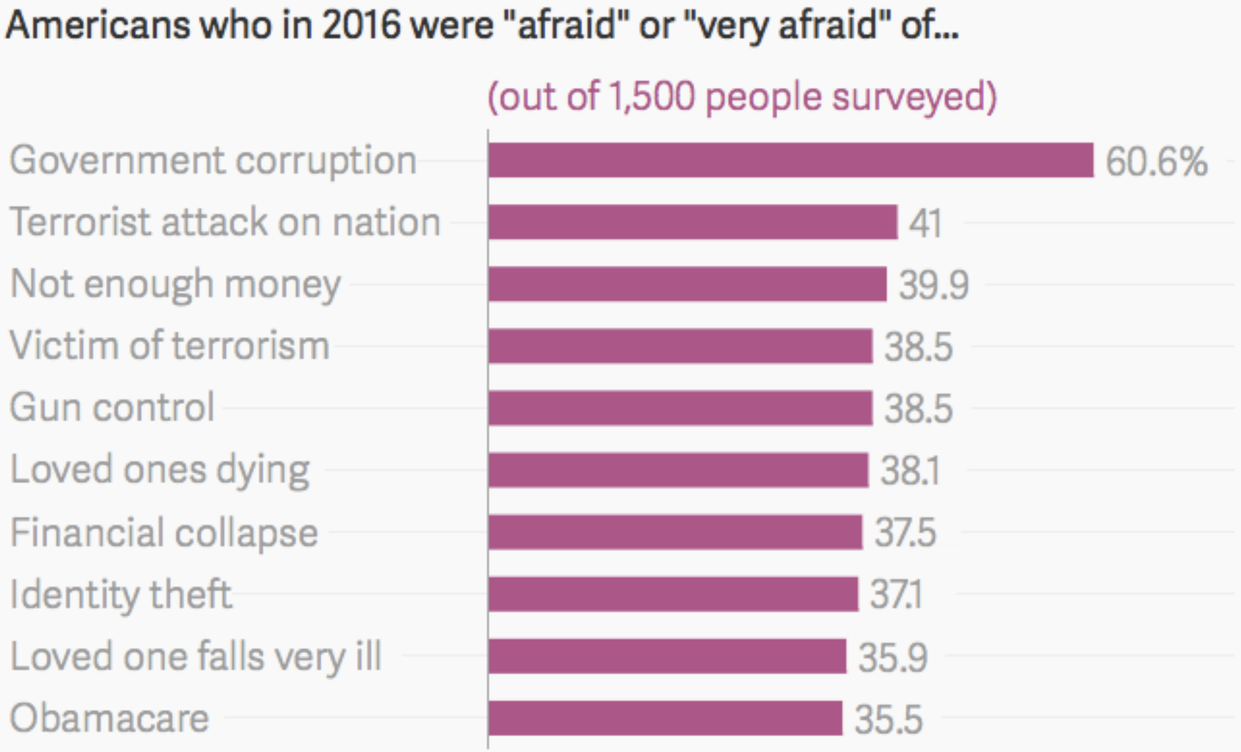
According to the New America Foundation, jihadists killed 94 people inside the United States between 2005 and 2015. During that same time period, 301,797 people in the US were shot dead, Politifact reports.

At first blush, these numbers might seem to indicate that Donald Trump's temporary ban on immigrants from seven countries—a goal he said was intended to "protect the American people from terrorist attacks by foreign nationals admitted to the United States"—is utterly misguided.

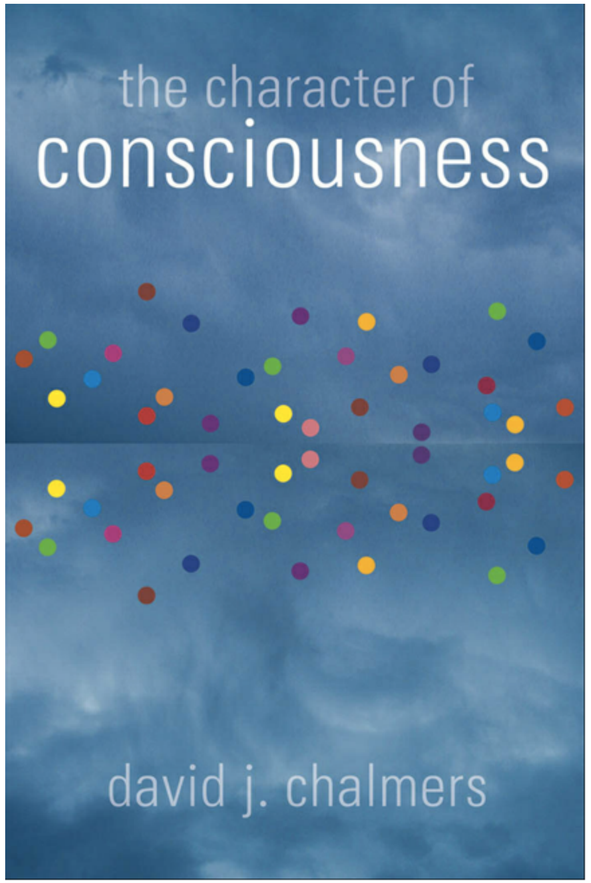
But Trump is right about at least one thing: Americans are more afraid of terrorism than they are of guns, despite the fact that guns are 3,210 times more likely to kill them.

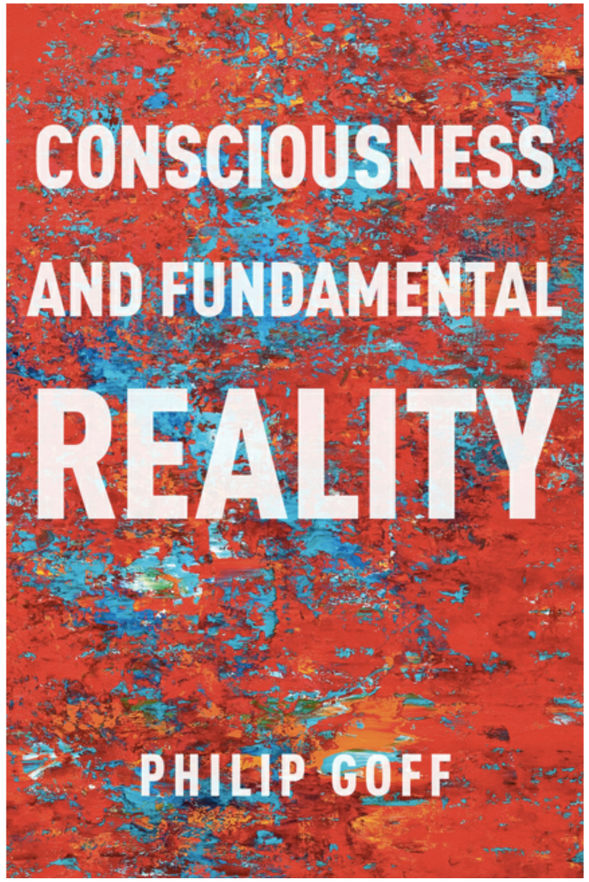
Chapman University has conducted a Survey of American Fears for more than three years. It asks 1,500 adults what they fear most. It organizes the fears into categories that include personal fears, conspiracy theories, terrorism, natural disasters, paranormal fears, and more recently, fear of Muslims.

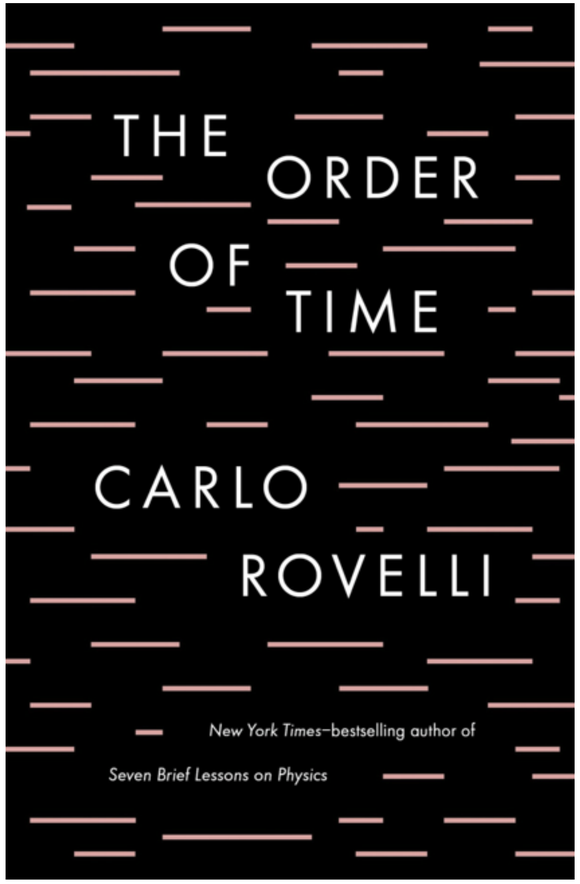
In 2016, Americans' number-one fear was "corruption of government officials"—the same top fear as in 2015. Terrorist attacks came second. In fact, of the top five fears, two are terror-related. And number five is not fear of guns but fear of government *restrictions* on guns. Fear of a loved one dying—whether by gun violence or anything else—came next.

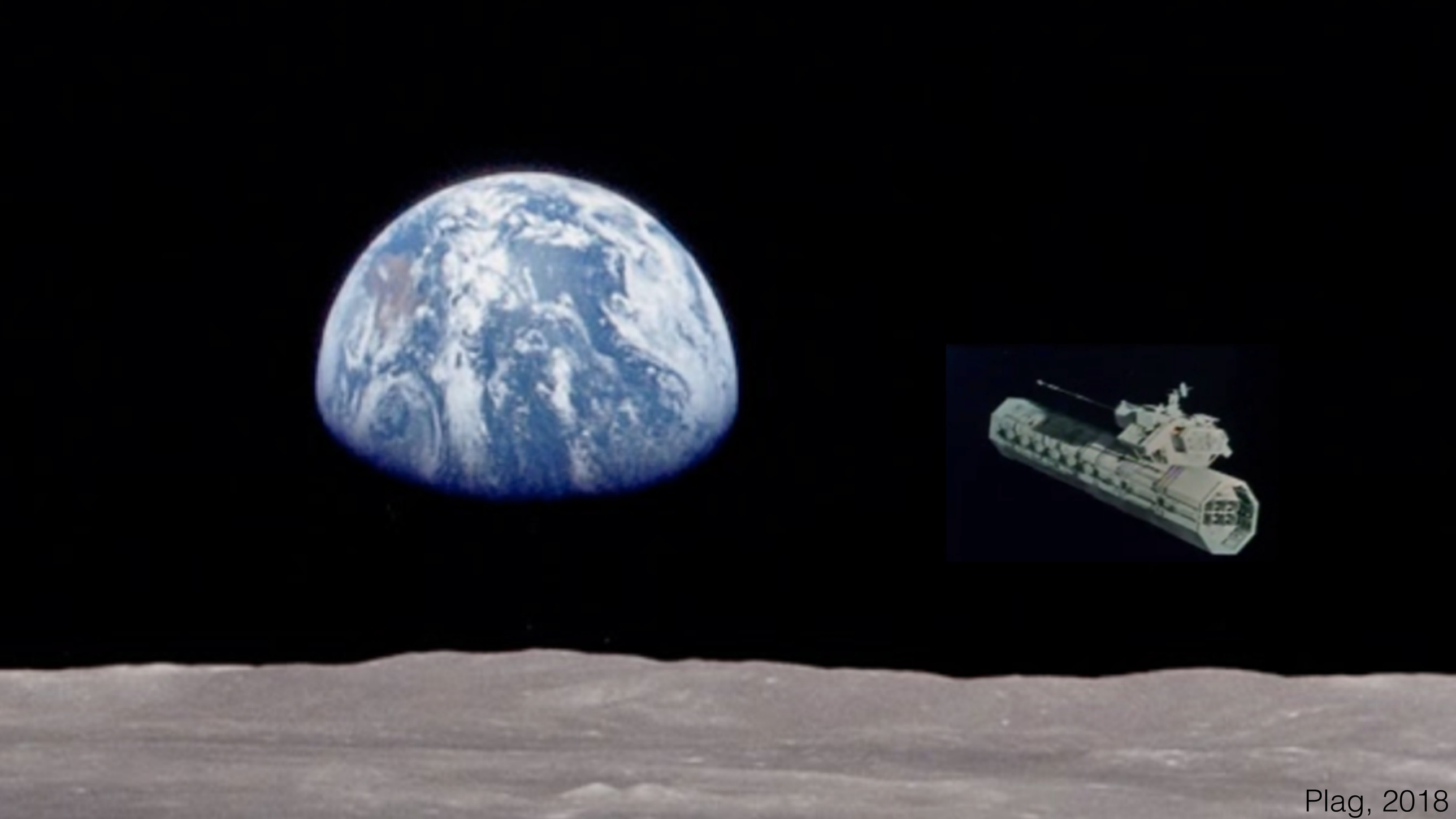


Decisions, Biases, and the Creation of Knowledge



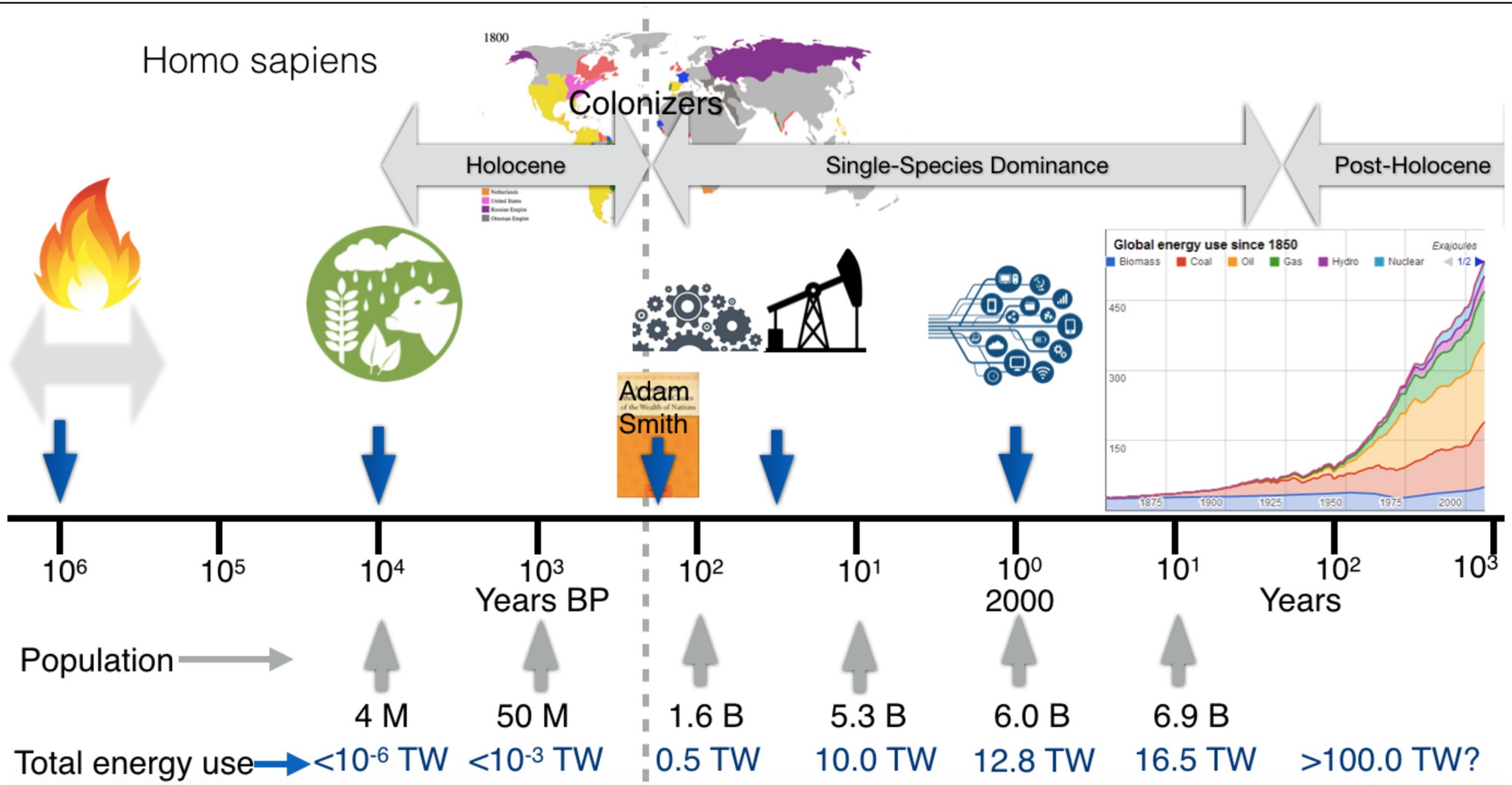






Plag, 2018

Decisions, Biases, and the Creation of Knowledge



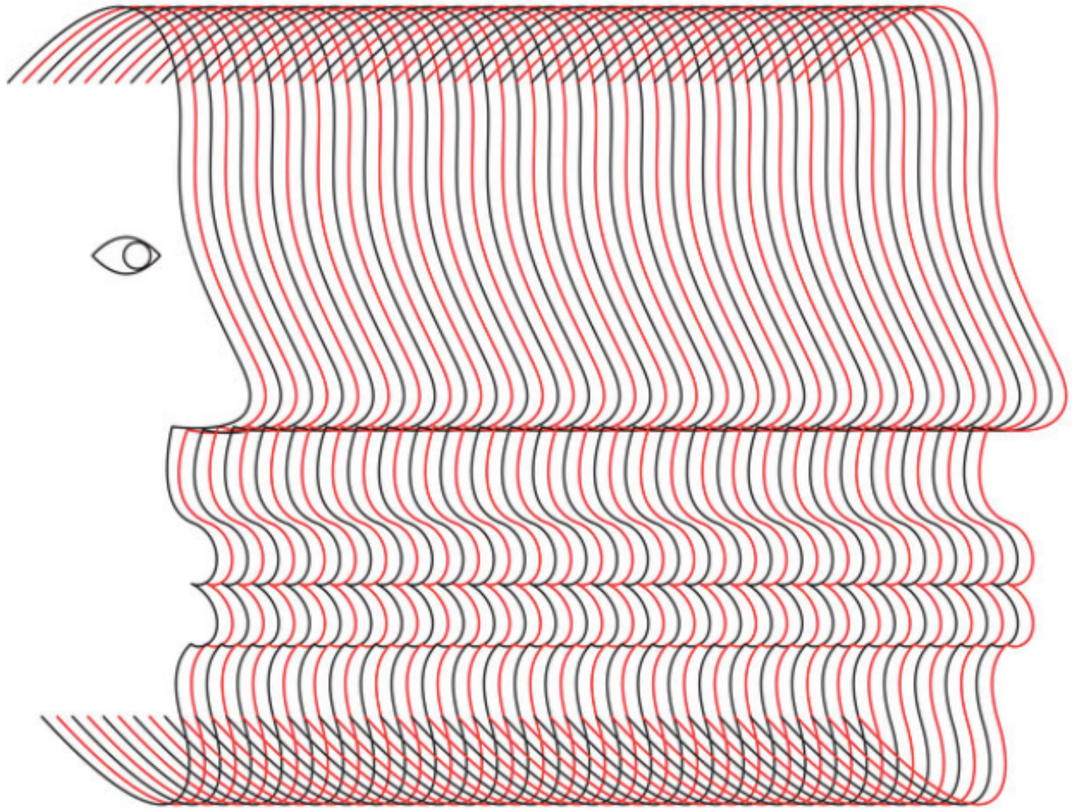
Plag, 2018

Decisions, Biases, and the Creation of Knowledge

The New York Times

OPINION

We Aren't Built to Live in the Moment



MAXWELL HOLYOKE-HIRSCH

By MARTIN E. P. SELIGMAN and JOHN TIERNEY
MAY 19, 2017

We are misnamed. We call ourselves Homo sapiens, the "wise man," but that's more of a boast than a description. What makes us wise? What sets us apart from other animals? Various answers have been proposed — language, tools, cooperation, culture, tasting bad to predators — but none is unique to humans.

What best distinguishes our species is an ability that scientists are just beginning to appreciate: We contemplate the future. Our singular foresight created civilization and sustains society. It usually lifts our spirits, but it's also the source of most depression and anxiety, whether we're evaluating our own lives or worrying about the nation. Other animals have springtime rituals for educating the young, but only we subject them to "commencement" speeches grandly informing them that today is the first day of the rest of their lives.

A more apt name for our species would be Homo prospectus, because we thrive by considering our prospects. The power of prospection is what makes us wise. Looking into the future, consciously and unconsciously, is a central function of our large brain, as psychologists and neuroscientists have discovered — rather belatedly, because for the past century most researchers have assumed that we're prisoners of the past and the present.

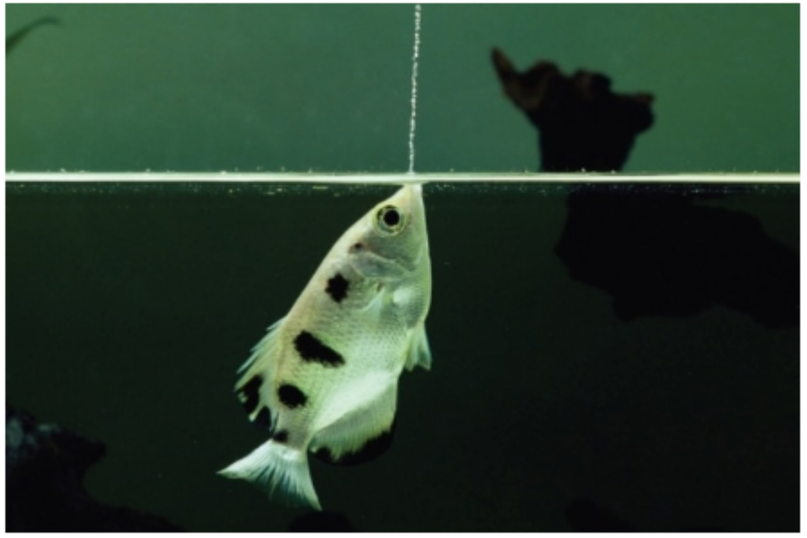
Behaviorists thought of animal learning as the ingraining of habit by repetition. Psychoanalysts believed that treating patients was a matter of unearthing and confronting the past. Even when cognitive psychology emerged, it focused on the past and present — on memory and perception.

BIOLOGY

Fishes Use Problem-Solving and Invent Tools

Some fish species turn out to be very good problem solvers. At times they even use tools

By Jonathan Balcombe on May 1, 2017



LATEST NEWS

Chimps May Be Capable of Comprehending the Minds of Others

A gorilla-suit experiment reveals our closest animal relatives may possess "theory of mind"

By Catherine Caruso on October 6, 2016 Véalo en español

Homo Sapiens and Other Animals

PERSPECTIVE | COGNITION

A raven's memories are for the future

Markus Boeckle, Nicola S. Clayton

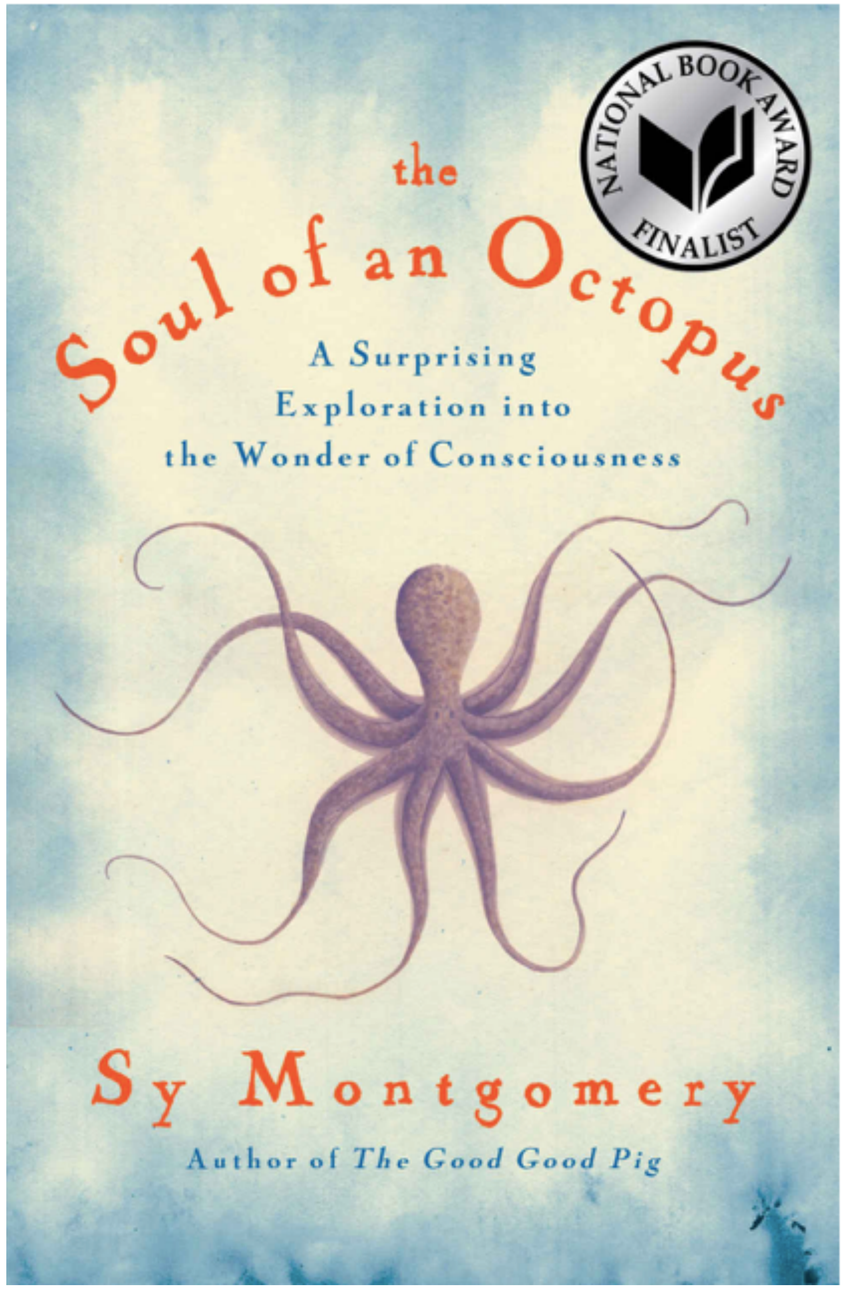
+ See all authors and affiliations

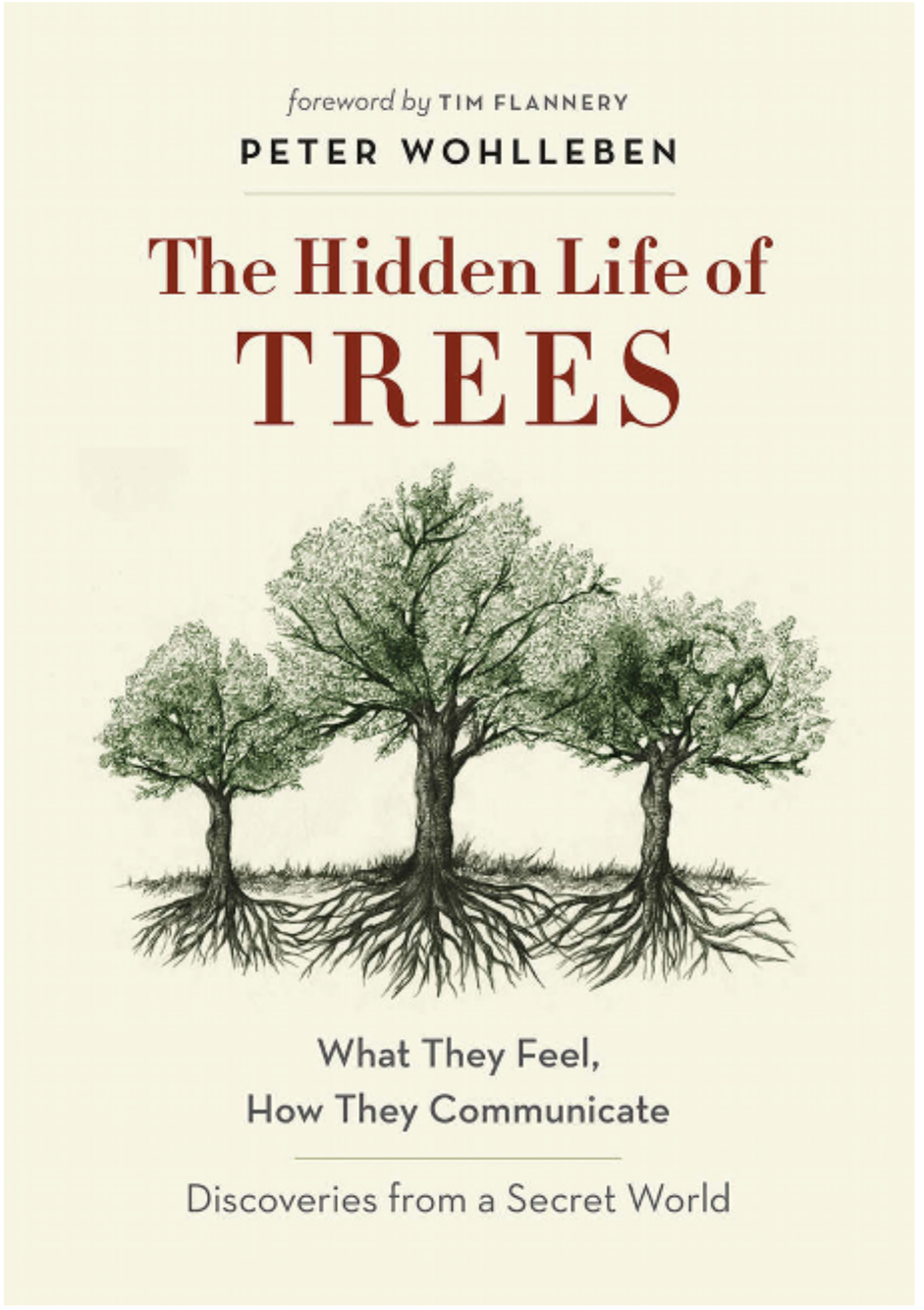
Science 14 Jul 2017:
Vol. 357, Issue 6347, pp. 126-127
DOI: 10.1126/science.aan8802

Summary

The human brain stores memories of past events to guide decision-making about current and future events. Researchers long assumed that animals do not use memories in this way but rather exist in a constant stream of present needs, unable to plan for the future (*1*). Studies on nonhuman primates and corvids challenge this view and show that some species can plan for the future at least as well as 4-year old children (*2*, *3*). These results suggest that planning for the future is not uniquely human and evolved independently in distantly related species to address common problems (*4*). On page 202 of this issue, Kabadayi and Osvath (*5*) show that ravens anticipate the nature, time, and location of a

Homo Sapiens and Other Beings





IN THEATERS NOW - CHECK 'SCREENINGS' BELOW FOR A THEATER NEAR YOU

Homo Sapiens and Other Beings

Groundbreaking! Judge States Chimpanzees Are Not 'Things' – Implying Laws Regarding Ownership Need to Change

899 TOTAL SHARES LIKE OGP ON FACEBOOK :

Natasha Brooks
May 9, 2018

https://www.onegreenplanet.org/news/judge-states-chimpanzees-not-things/

Homo Sapiens and Other Beings

The fight to grant non-human primates (and other animals) personhood has been long and arduous, plagued with obstacles. The law has yet to catch up to ethics or science that proves that animals are sentient beings who experience most of the same emotions we do, like joy, sadness, fear, and compassion. As our closest kin, non-human primates like chimpanzees have emotions and behaviors that are especially similar to our own, and ***a judge in New York has made the statement that chimpanzees should not be classified as "things"!***

Judge Eugene M. Fahey, an Associate Judge on the Court of Appeals, New York's highest court, made this statement in regards to the Nonhuman Rights Project's (NhRP) tireless efforts to free chimpanzees Tommy and Kiko. Both chimps were used and physically abused for TV and film and are currently held in captivity in barren and isolated environments, and Kiko has been seen with a heavy steel chain and padlock around his neck. NhRP's goal is to send these two chimps to a sanctuary, but the judicial system has dismissed their motions several times.

Judge Fahey criticized the court's decisions, stating that their dismissal "amounts to a refusal to confront a manifest injustice" and is "a deep dilemma of ethics and policy that demands our attention. To treat a chimpanzee as if he or she had no right to liberty protected by habeas corpus is to regard the chimpanzee as entirely lacking independent worth, as a mere resource for human use, a thing the value of which consists exclusively in its usefulness to others. Instead, ***we should consider whether a chimpanzee is an individual with inherent value who has the right to be treated with respect***."

Fahey continued, "In the interval since we first denied leave to the Nonhuman Rights Project, I have struggled with whether this was the right decision. Although I concur in the Court's decision to deny leave to appeal now, I continue to question whether the Court was right to deny leave in the first instance. ***The issue whether a nonhuman animal has a fundamental right to liberty protected by the writ of habeas corpus is profound and far-reaching. It speaks to our relationship with all the life around us. Ultimately, we will not be able to ignore it. <u>While it may be arguable that a chimpanzee is not a 'person,' there is no doubt that it is not merely a thing."</u>***

https://www.onegreenplanet.org/news/judge-states-chimpanzees-not-things/

Decisions, Biases, and the Creation of Knowledge

Student feedback: Importance of values”

“I really like that values is an important competency for leadership. Having a value system is very important, every person needs a framework in which they live their life.

Ethics:

- Normative: discover truth about morality - what rules should be promoted?
- Descriptive: describe the ethical and moral rules - what does motivate people?

Norms can deviate from what ethics considers as normative:

- slavery was a norm over a long time in many parts of the world but is to largely considered unethical
- voting rights restrictions for parts of the population/women were a norm but are now considered unethical
- Virginia Sterilization Act of 1924 reflected a social norm at that time but today would be highly unethical

What of today’s norms will be considered unethical tomorrow?

Ethics requires:

- careful thinking about what is morally justified (normative reasoning),
- consideration of how relevant culture/customs/norms might be changed (descriptive/empirical ethics).

Questions

Questions

1. Is human reasoning rational? If not, explain why.

Questions

1. Is human reasoning rational? If not, explain why.

Questions

1. Is human reasoning rational? If not, explain why.

2. After viewing **Hans Rosling's TED presentation**, what is Rosling's main message, in your opinion?

Questions

1. Is human reasoning rational? If not, explain why.

2. After viewing **Hans Rosling's TED presentation**, what is Rosling's main message, in your opinion?

Questions

1. Is human reasoning rational? If not, explain why.

2.

3. What do you know about cognitive biases and how do you think they impact our decision making. Give examples.

Questions

1. Is human reasoning rational? If not, explain why.

2.

3. What do you know about cognitive biases and how do you think they impact our decision making. Give examples.

Questions

1. Is human reasoning rational? If not, explain why.

2.

3.

4. Give an example where some of your cognitive biases have impacted your perception of recent events.

Questions

1. Is human reasoning rational? If not, explain why.

2.

3.

4. Give an example where some of your cognitive biases have impacted your perception of recent events.

Questions

1. Is human reasoning rational? If not, explain why.

2.

3.

4.

5. Based on the readings for **class 3**, respond to: How, and by whom, has in recent decades in the U.S. a form of skepticism been used to discredit and blur scientific evidence? How does this relate to cognitive biases?

Questions

1. Is human reasoning rational? If not, explain why.

2.

3.

4.

5. Based on the readings for **class 3**, respond to: How, and by whom, has in recent decades in the U.S. a form of skepticism been used to discredit and blur scientific evidence? How does this relate to cognitive biases?

Questions

1. Is human reasoning rational? If not, explain why.
2.
3.
4.
5.
6. Considering the discussion in **Lukianoff and Haidt (2015)** and **Jensen (2016)** and comment on how cognitive biases impact the interpretation of societal developments. Give examples.

Questions

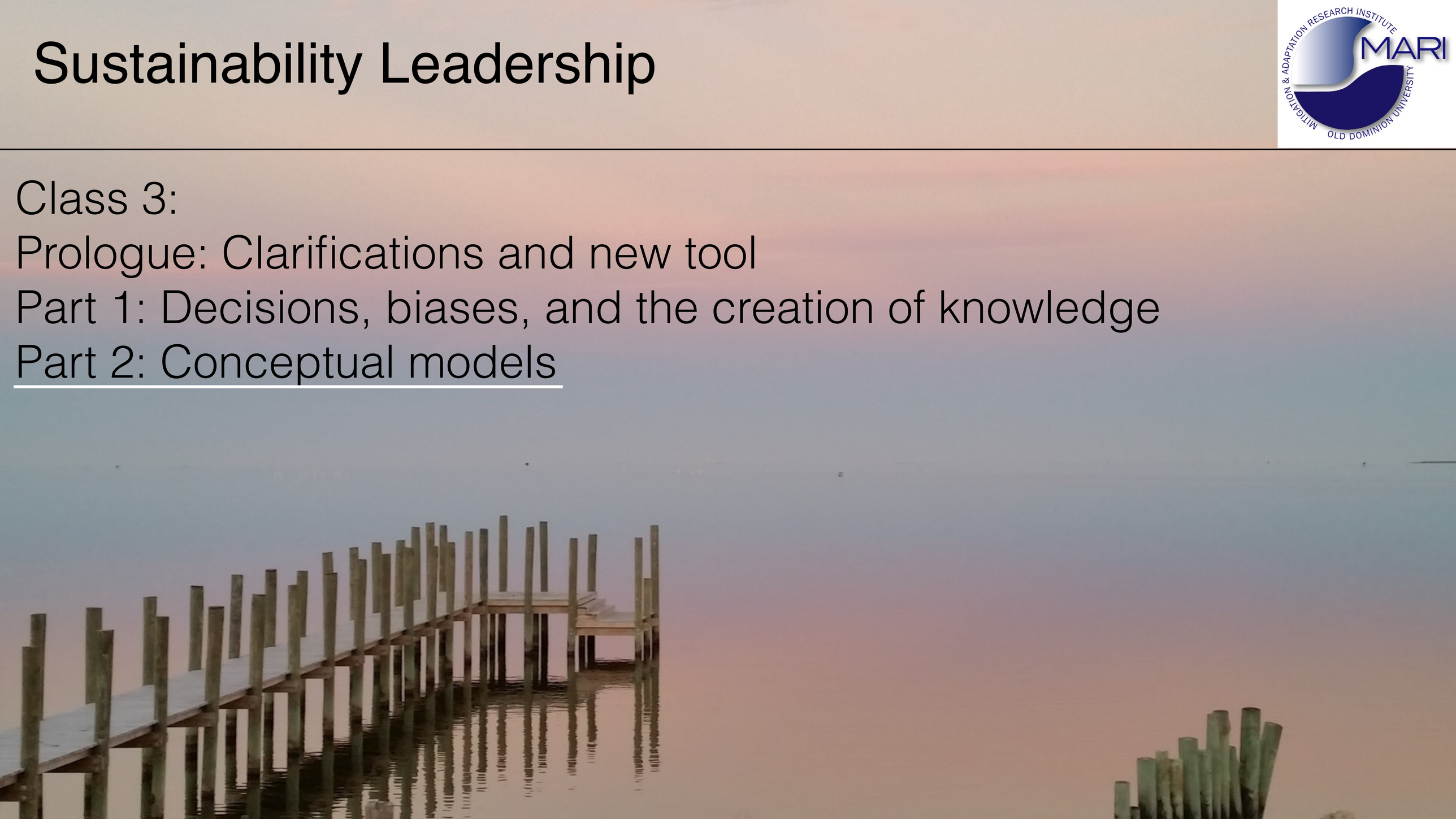
1. Is human reasoning rational? If not, explain why.
2.
3.
4.
5.
6. Considering the discussion in **Lukianoff and Haidt (2015)** and **Jensen (2016)** and comment on how cognitive biases impact the interpretation of societal developments. Give examples.

Questions

1. Is human reasoning rational? If not, explain why.
2.
3.
4.
5.
6.
7. From a systems theory point of view, what are the most significant trends in the Earth's life-support system that appear not to be sustainable? Describe at least four of the core trends and identify the relevant essential variables.

Sustainability Leadership

Class 3:
Prologue: Clarifications and new tool
Part 1: Decisions, biases, and the creation of knowledge
Part 2: Conceptual models



Conceptual Models

Procedure:

1. Goal statement
2. Conceptual Model
3. Backcasting
4. Table-top game
5. Game playing
6. Role playing
7. Agent-based models

Conceptual Models

Search string: “conceptual ecosystem models”

Integrated Conceptual Model for Ecosystem Recovery

A Technical Memorandum for the Puget Sound Partnership

April, 2015

Lead Author

Haley Harguth, Hershman Marine Policy Fellow at Puget Sound Partnership

Contributors

Kari Stiles, PhD, Puget Sound Partnership
Kelly Biedenweg, PhD, University of Washington – Tacoma, Puget Sound Institute
Scott Redman, Puget Sound Partnership
Sandie O’Neill, Washington Department of Fish and Wildlife

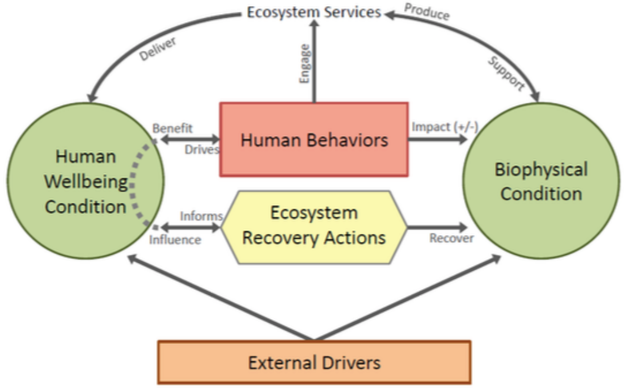


Figure 2: Integrated Conceptual Model for Ecosystem Recovery

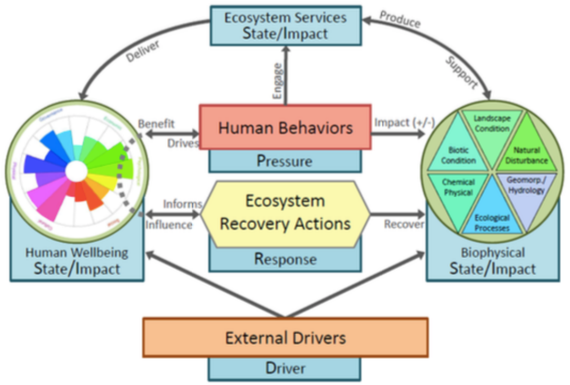


Figure 3: Integrated Conceptual Model for Ecosystem Recovery with DPSIR Framework. The Driver-Pressure-State-Impact-Response (DPSIR) framework is embedded within the new conceptual model (blue boxes). The Essential Ecosystem Attributes (EPA 2002) are shown within the biophysical condition (colored wedges), as well as the domains of human wellbeing (colored wedges; Biedenweg et al. 2014)

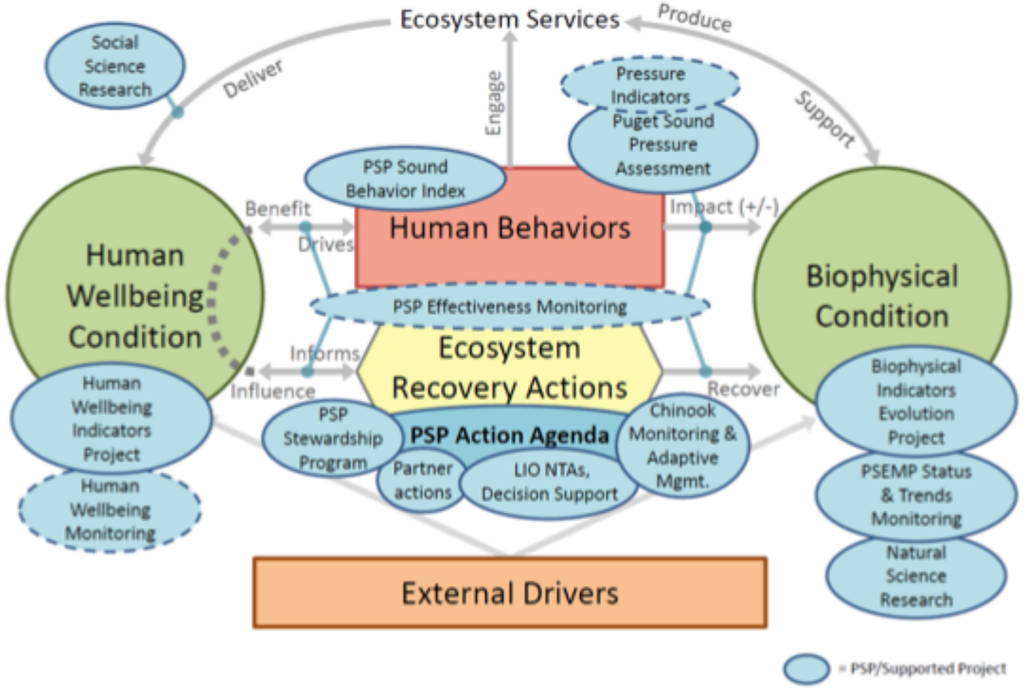


Figure 5: Integrated Conceptual Model for Ecosystem Recovery + PSP Projects and Programs. PSP programs and projects (blue ovals) are mapped to the conceptual model to illustrate where management, research and planning efforts are focused, and which components of the SES require more attention. The blue ovals with dotted outlines indicate projects that are in development.

https://www.eopugetsound.org/sites/default/files/files/PSP%20Integrated%20Conceptual%20Model%20for%20Ecosystem%20Recovery%20Report_2015-04-03_0.pdf

Conceptual Models

https://www.sciencedirect.com/science/article/pii/S221204161630523X

ELSEVIER

Ecosystem Services

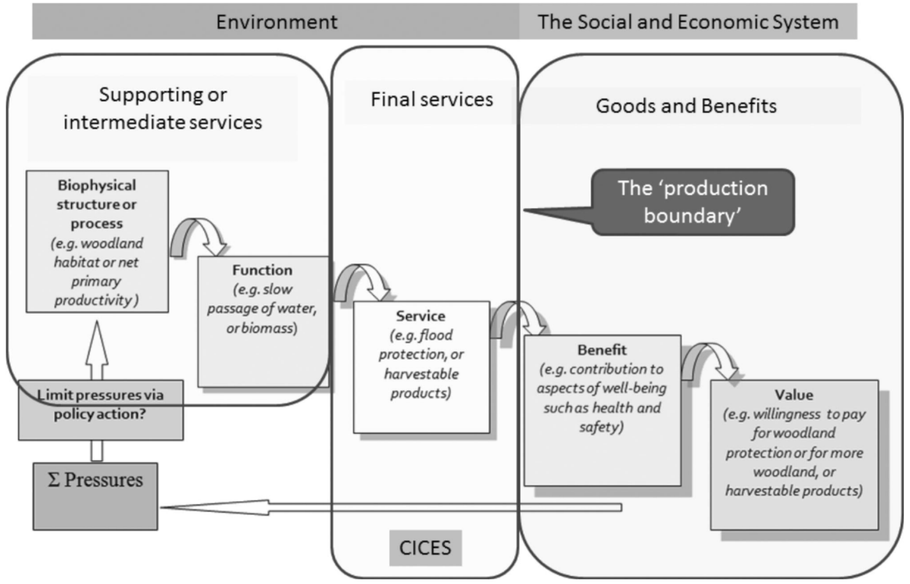
Volume 29, Part C, February 2018, Pages 428-440

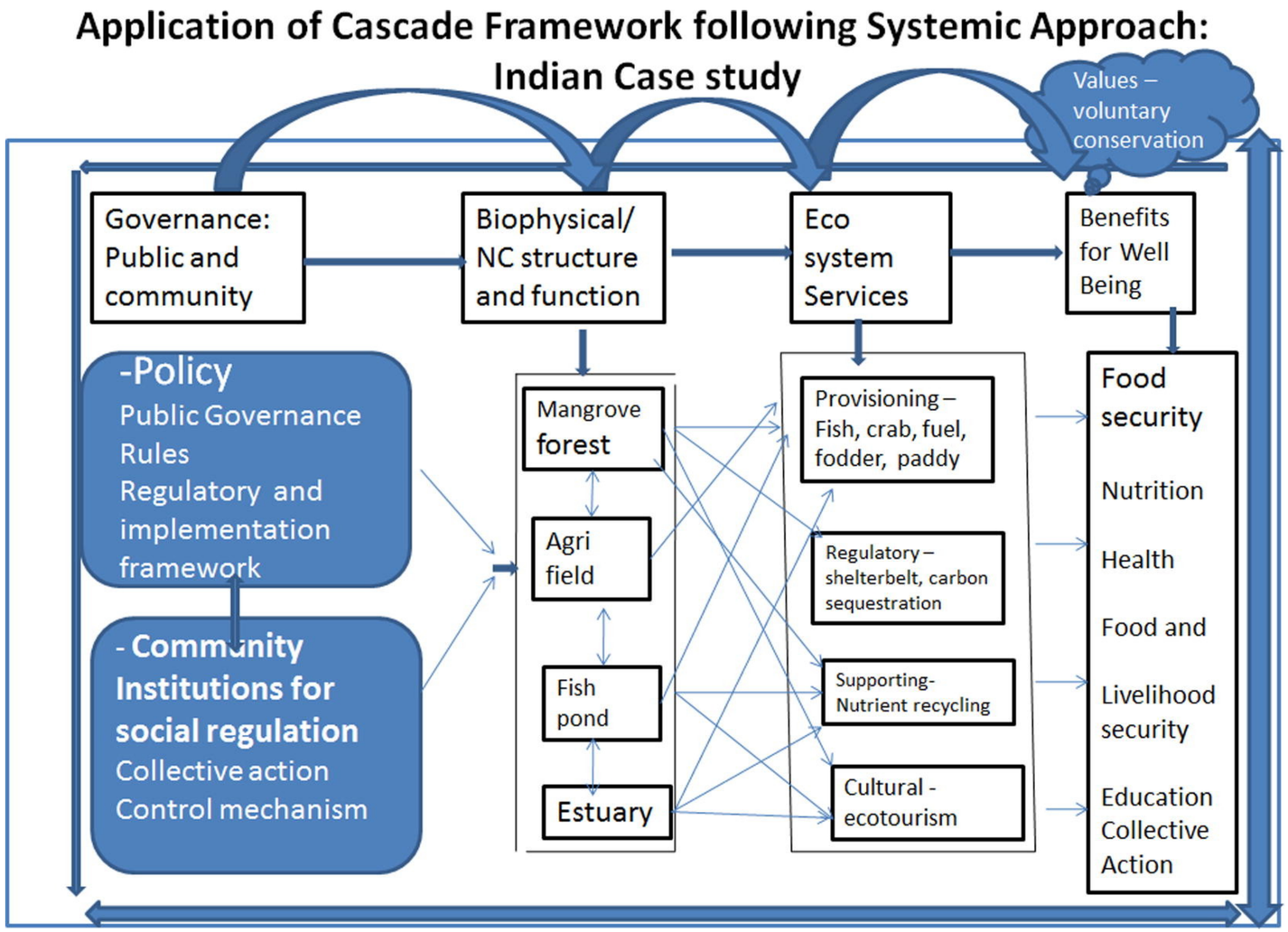
Understanding the role of conceptual frameworks: Reading the ecosystem service cascade

M. Potschin-Young [a], R. Haines-Young [a], C. Görg [b], U. Heink [c], K. Jax [c, d], C. Schleyer [b, e]

Show more

https://doi.org/10.1016/j.ecoser.2017.05.015





Conceptual Models

https://www.sciencedirect.com/science/article/pii/S221204161630523X

ELSEVIER

Ecosystem Services

Volume 29, Part C, February 2018, Pages 428-440

Understanding the role of conceptual frameworks: Reading the ecosystem service cascade

M. Potschin-Young [a], R. Haines-Young [a], C. Görg [b], U. Heink [c], K. Jax [c, d], C. Schleyer [b, e]

Show more

https://doi.org/10.1016/j.ecoser.2017.05.015