



FOUNDATION FOR
THE ADVANCEMENT
OF SOCIAL THEORY



CAPELLA UNIVERSITY



Integrative Propositional Analysis: The missing Link for Creating More Effective Laws



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Challenges for Law-Making

- War
- Crime
- Poverty
- Injustice
- Hunger
- Immigration
- Commerce
- Health
- Safety



Typical Processes for Creating Laws

- Muddling through
- Political wrangling
- Special interest groups
- Low expertise of law-makers

Typical Results = Poor Laws

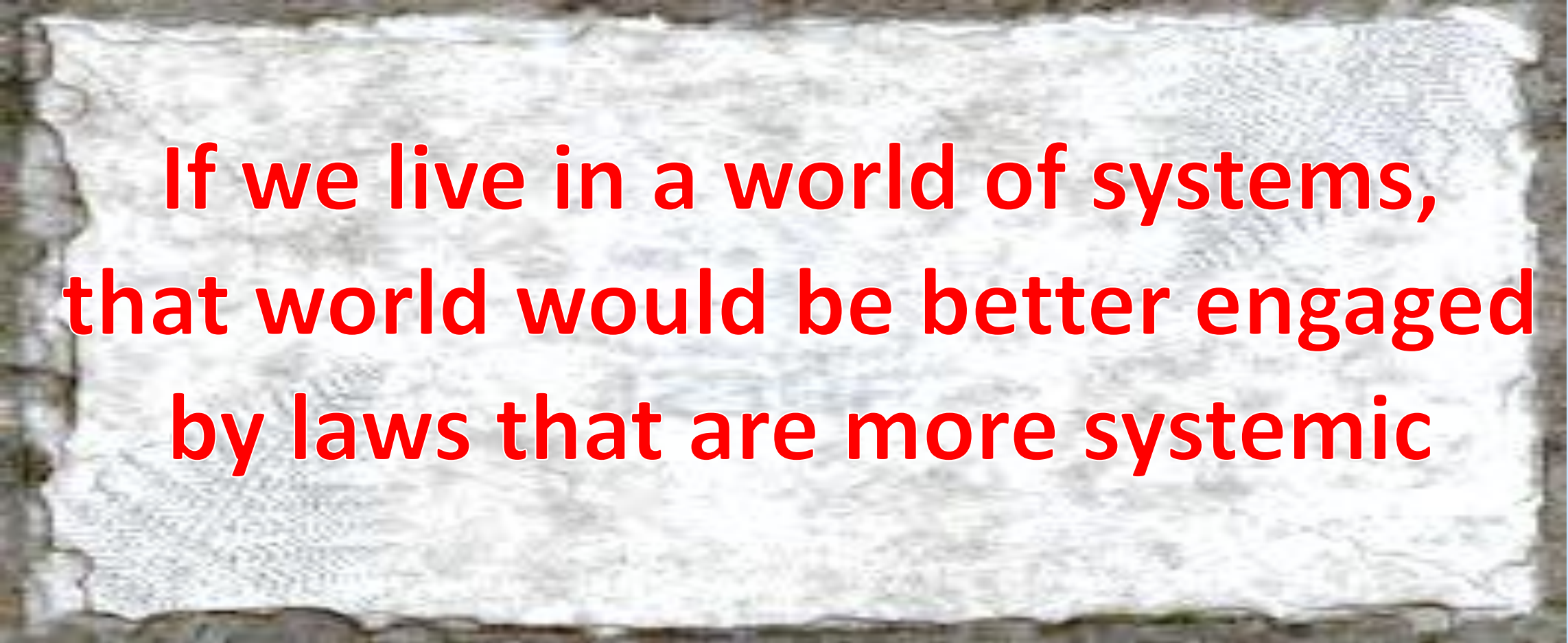
Maladaptive results

- e.g. laws for hands free cell phone use

Decreasing Relevance of Political Science

[Journals] have never settled “once and for all, any major analytical, conceptual, empirical, or normative dispute” (Isaac, 2015, p. 279).

One Simple Assumption

A rectangular piece of torn, aged, light-colored paper is centered on a solid light blue background. The paper has irregular, ragged edges and a slightly textured surface. Overlaid on the paper is a single line of text in a bold, red, sans-serif font. The text is centered horizontally and vertically on the paper.

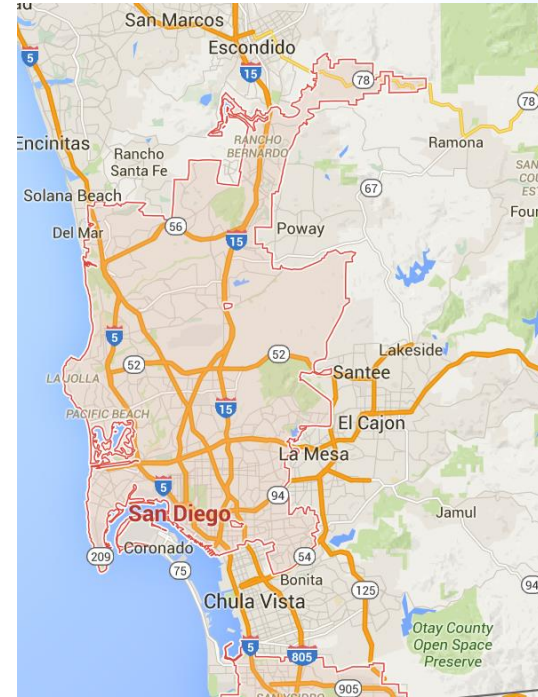
**If we live in a world of systems,
that world would be better engaged
by laws that are more systemic**

Which Works Best for Navigation?

Disconnected = Data

- San Diego
- Roads, Highways
- Rivers, Hills, Mountains
- Universities, Zoo

Connected = Information

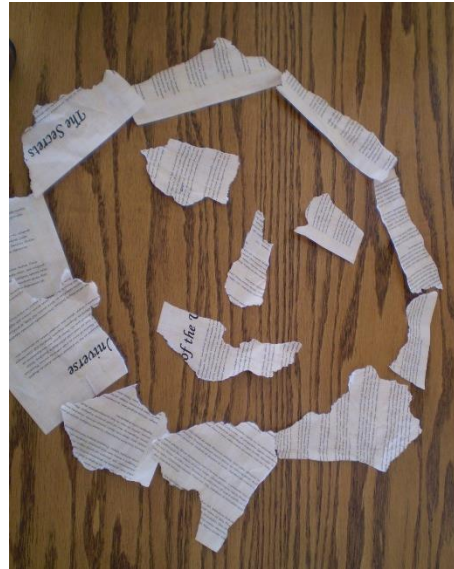


So... Yes: Reality is Systemic: James, W. (1909). *A Pluralistic Universe*. Manchester, UK.
Theories that are more systemic are more useful (Dubin, 1978; Friedman, 1978; Wallis, 2010).
Integrative Complexity stream of research shows benefits of systemic understanding.

To be Meaningful, Data Requires Connections

$$3 \square 3 = ? \quad \left\{ \begin{array}{l} = 0? \\ = 1? \\ = 6? \\ = 9? \end{array} \right.$$

Scraps of data may be reassembled in a way that seem to make sense...



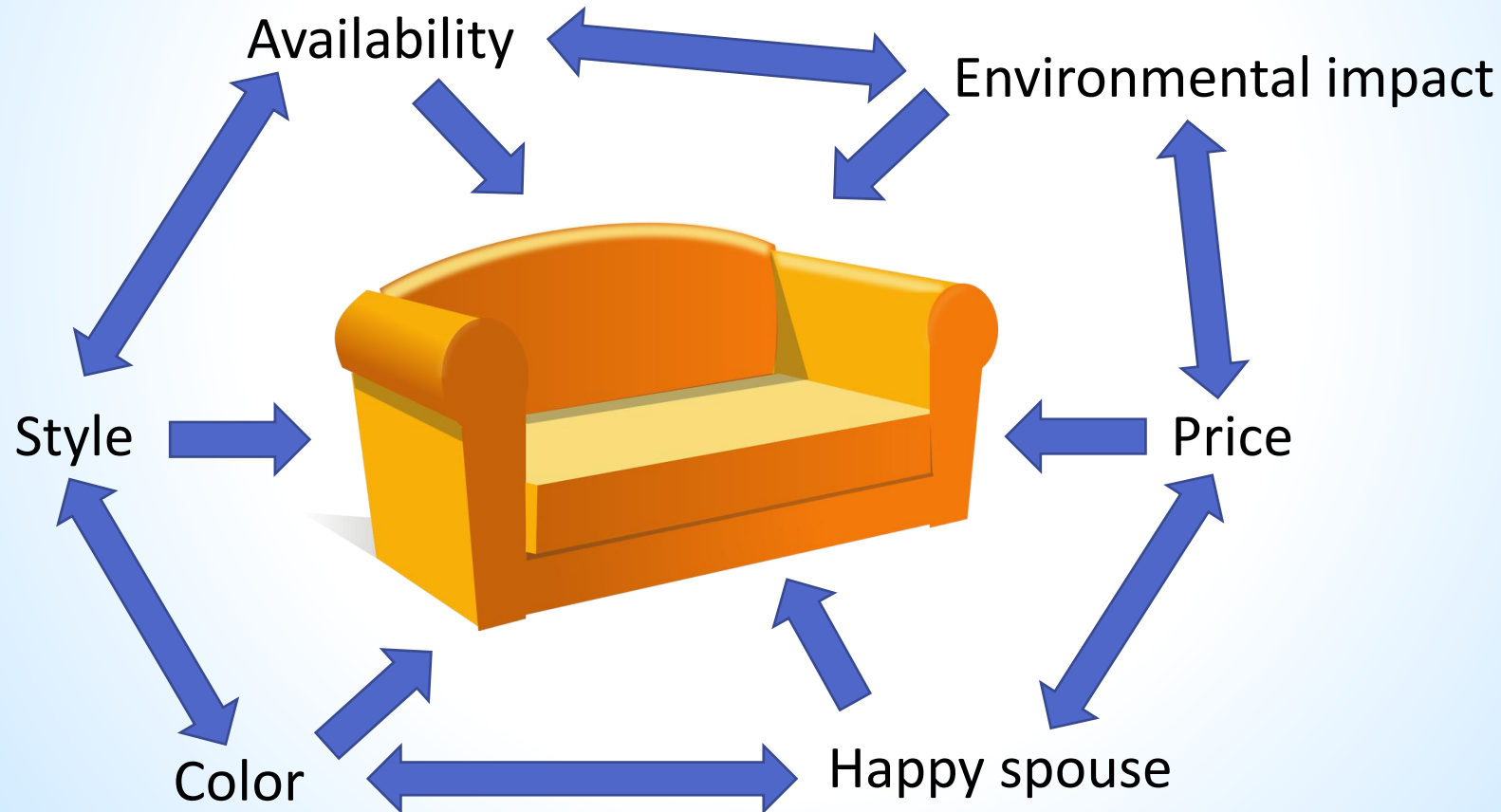
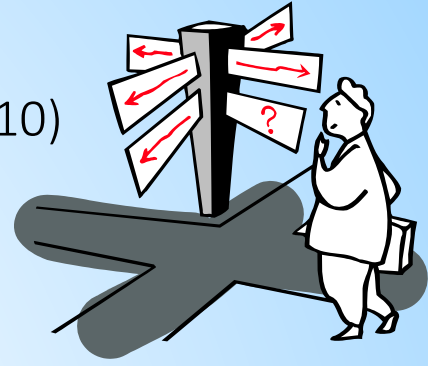
KEY: Data is not enough. We need data AND logics
We need rules for evaluating the structure of laws
Without structure, we lose reasoning ability

Correspondence? Coherence?

(Müller, 2012; Umpleby, 2010)

- Science One

- Science Two – includes both!



Explanatory capacity is based on

- Systemic Structure
- Complexity

Measuring those, we may predict the potential efficacy of a proposed law.

Improving those (in the creation of a law) we may improve the explanatory capacity which equates to provide greater odds of success.



DEFINITION:

*A law contains a set of interrelated propositions.
(representing how the world works and how it may be changed)*

...much the same as a **Theory** (Metcalf, 2004), **Policy** (Shackelford, 2014),
set of **Assumptions** (Dent & Umpleby, 1998), or **Concept Map** (Eppler, 2006)

Analyze propositions within proposed laws using IPA

Integrative Propositional Analysis (IPA):

1. **Identify propositions** within the text of the bill
2. **Diagram** the propositions with one box for each concept and arrows indicating directions of *causal* effects
3. **Find linkages** between causal concepts and resultant concepts between all propositions
4. Identify the **total number** of concepts
5. Identify **transformative** concepts
6. **Divide** the number of transformative concepts by the total number of concepts in the model

Using IPA – Step #1 – Identify Propositions

From HR4286

- The United States Court of Appeals for the Fifth Circuit shall have exclusive jurisdiction over challenges to offshore energy projects and permits to drill carried out in the Gulf of Mexico
- The restrictions on crude oil exports from the 1970s are no longer necessary due to the technological advances that have increased the domestic supply of crude oil
- Repealing restrictions on crude oil exports will contribute to job growth

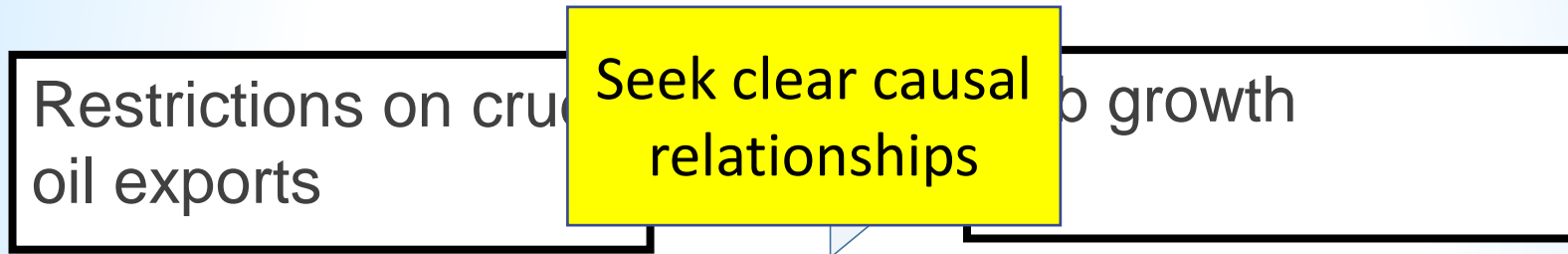
Does not say
HOW
(Atomistic
Statement)

Negative
statements
are not very
useful

Seek clear causal
relationships

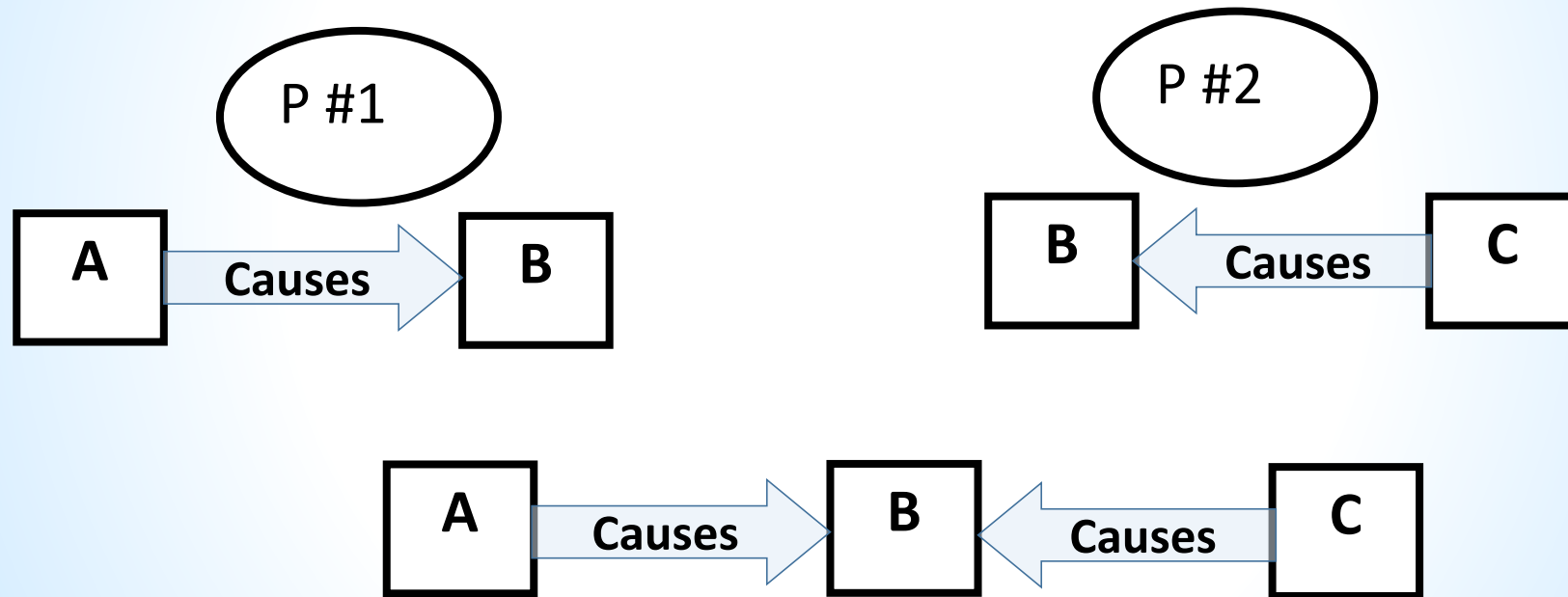
Using IPA – Step #2 – Diagram Propositions

Example from: HR 4286



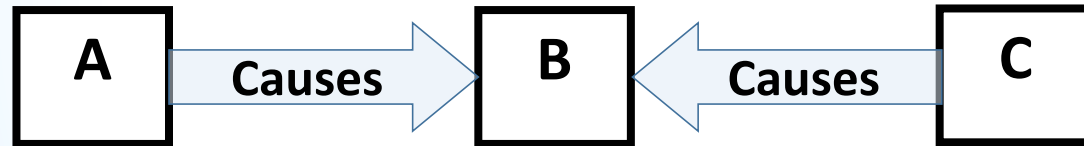
IPA – Step 3

Find overlaps between causal concepts and resultant concepts



IPA – Step 4

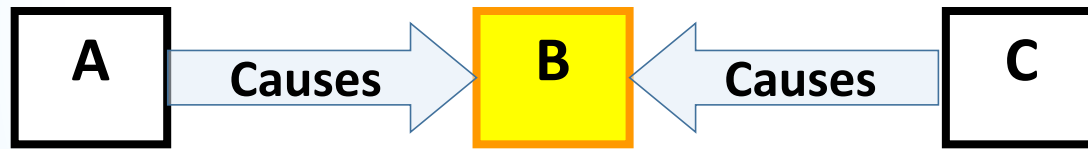
Identify the total number of concepts



Total Number of Concepts = 3

IPA – Step 5

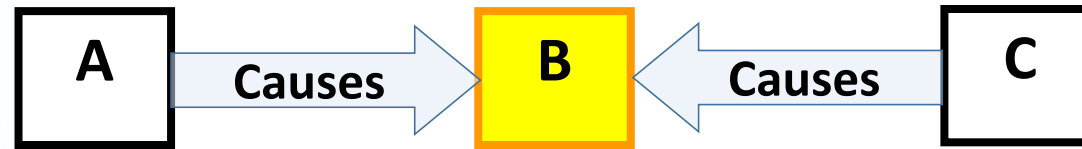
Identify transformative concepts



Number of transformative concepts = 1

IPA – Step 6

Divide the number of
transformative concepts by the
total number of concepts



Number of transformative concepts = 1

÷ Total Number of Concepts = 3

= Systemicity = 0.33

(result of one divided by three)

Integrative Propositional Analysis (IPA)



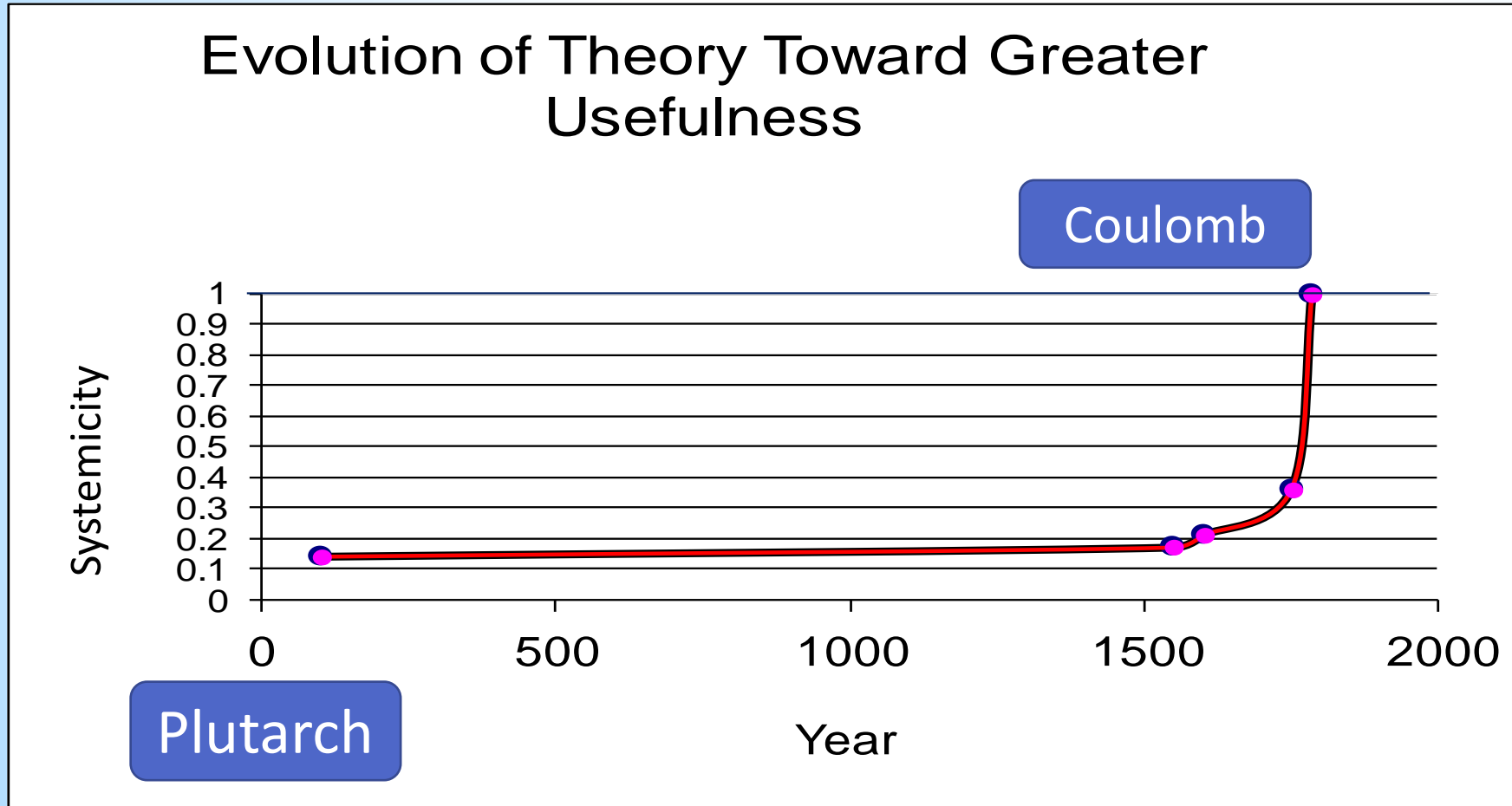
- More Concepts = GOOD!
- More Connections = VERY GOOD!

Conceptual Structures are Limited by Complexity



Evolution of Theory Toward Greater Usefulness

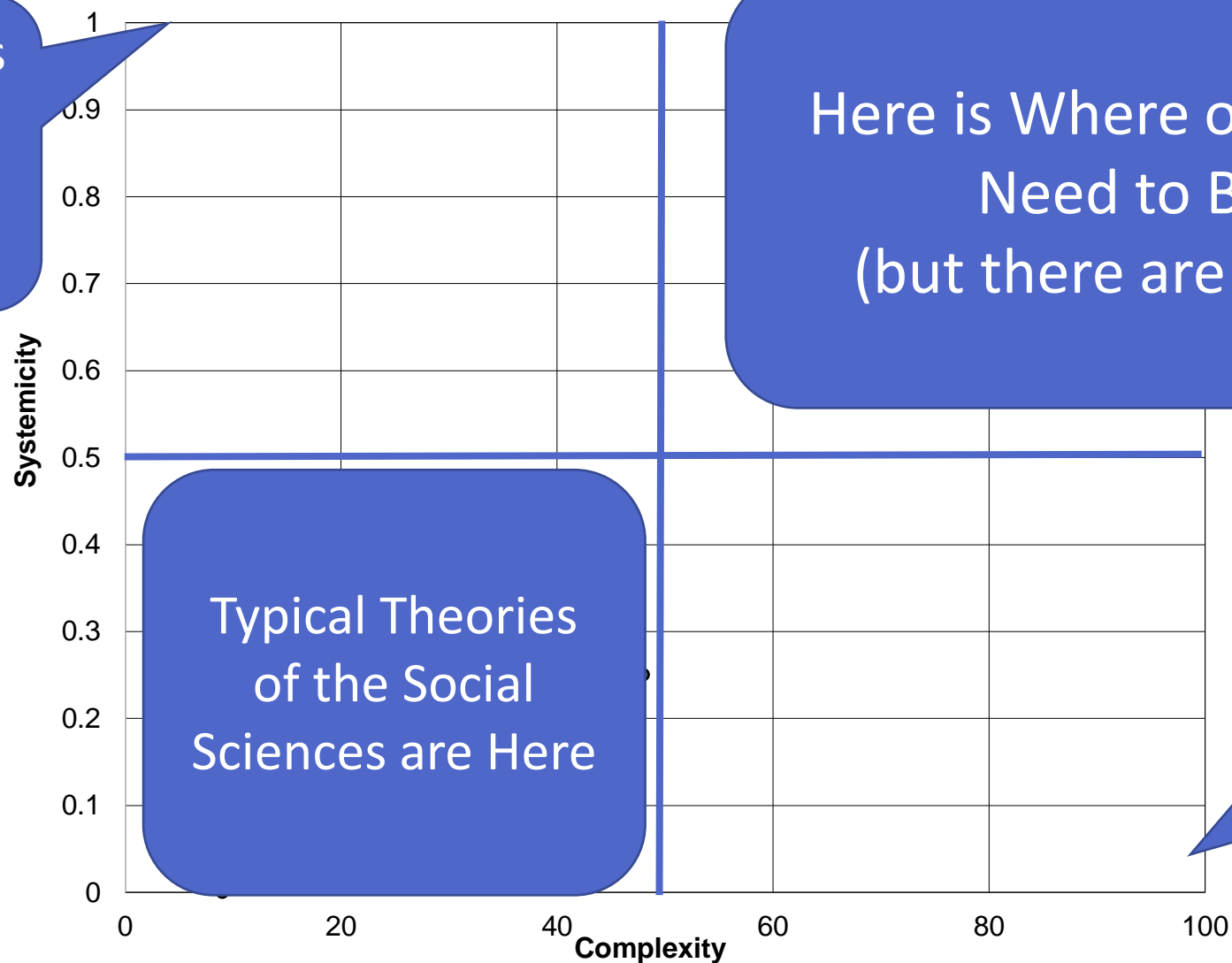
Theories of electrostatic attraction (Wallis, 2010)



We need
greater
Systemicity
to achieve
more success

Structural Meta-Map

Theories/Laws
of Physics and
Engineering
Are Here



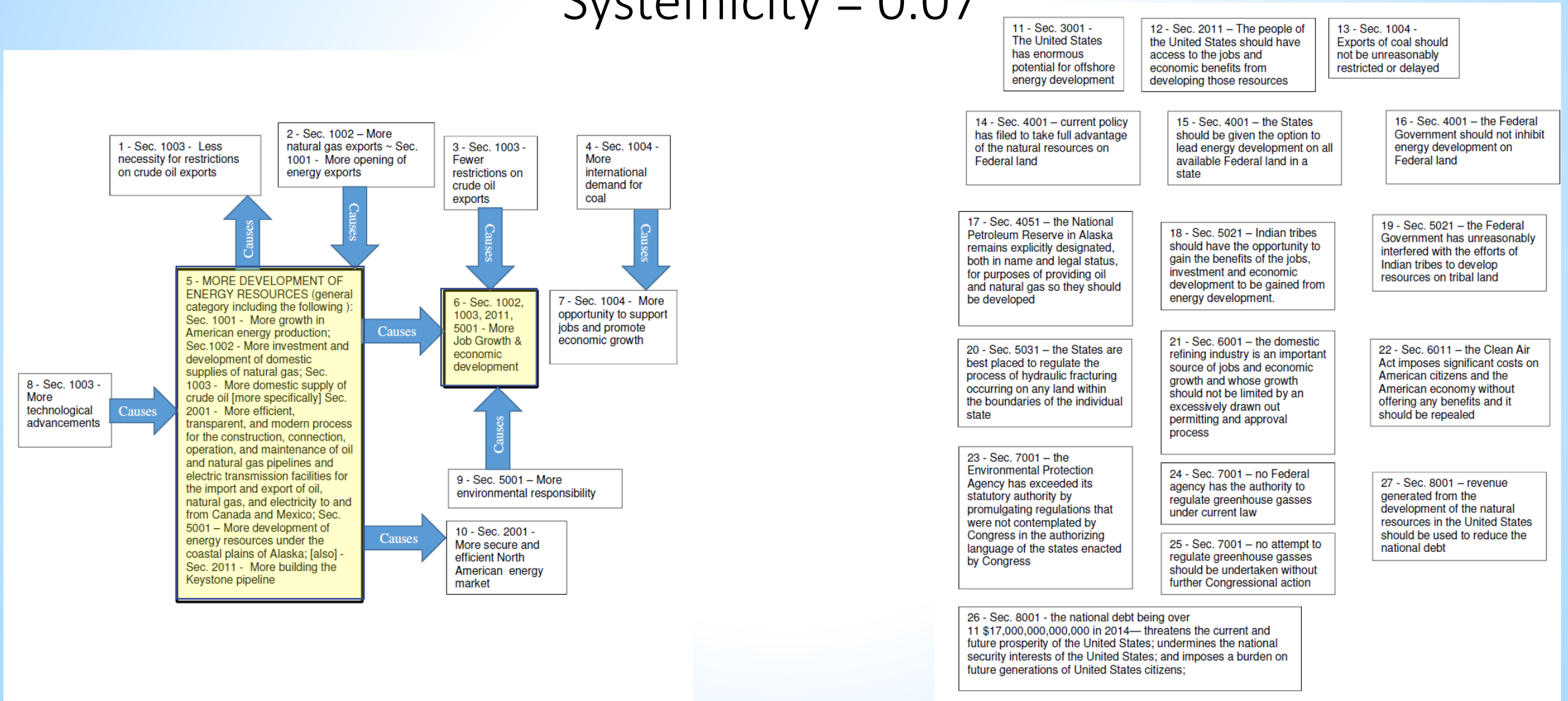
Here is Where our Laws
Need to Be
(but there are none)

Typical Theories
of the Social
Sciences are Here

Rambling
Internet
Manifestos

HR 4286 - American Energy Renaissance Act of 2014

Complexity = 27
Systemicity = 0.07



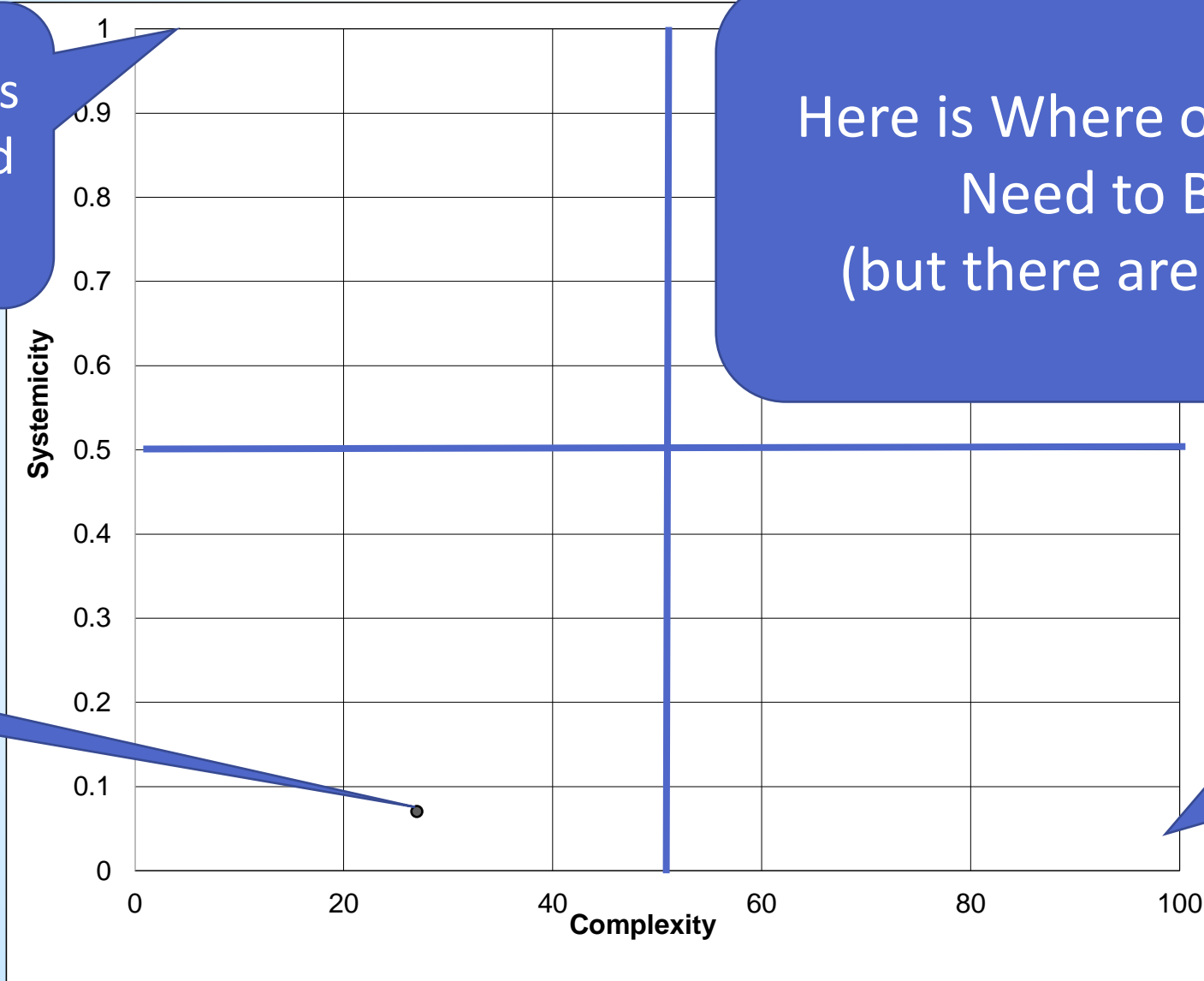
Placing HR 4286 into Perspective

Theories/Laws
of Physics and
Engineering

Here is Where our Laws
Need to Be
(but there are none)

HR4286

Rambling
Internet
Manifestos



Objective Measures of Related Issues (anon. reviewer)

1. the problem that the law addresses
2. the size and nature of the problem
3. the priority of the problem for solution vis-a-vis other problems
4. the design method used to create the law
5. the purpose of the law in terms of a measurable outcome
6. the costs of the law (R&D, enforcement, courts, drain from treasury, etc.)
7. the negative side effects of the law (environmental impact, economic risk to citizenry, violation of the constitution...)
8. citation of all references / methods / data bases
- 9. IPA – The internal structure of the text of the law**

Conclusion & Recommendation

- IPA provides the only objective method for evaluating the internal structure of proposed laws
- Good structure, which can be measured with IPA, should be adopted as an **ISO standard** (in conjunction with other data-based approaches)



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ACCESSING STRATEGIC KNOWLEDGE
META ANALYSIS THINK TANK



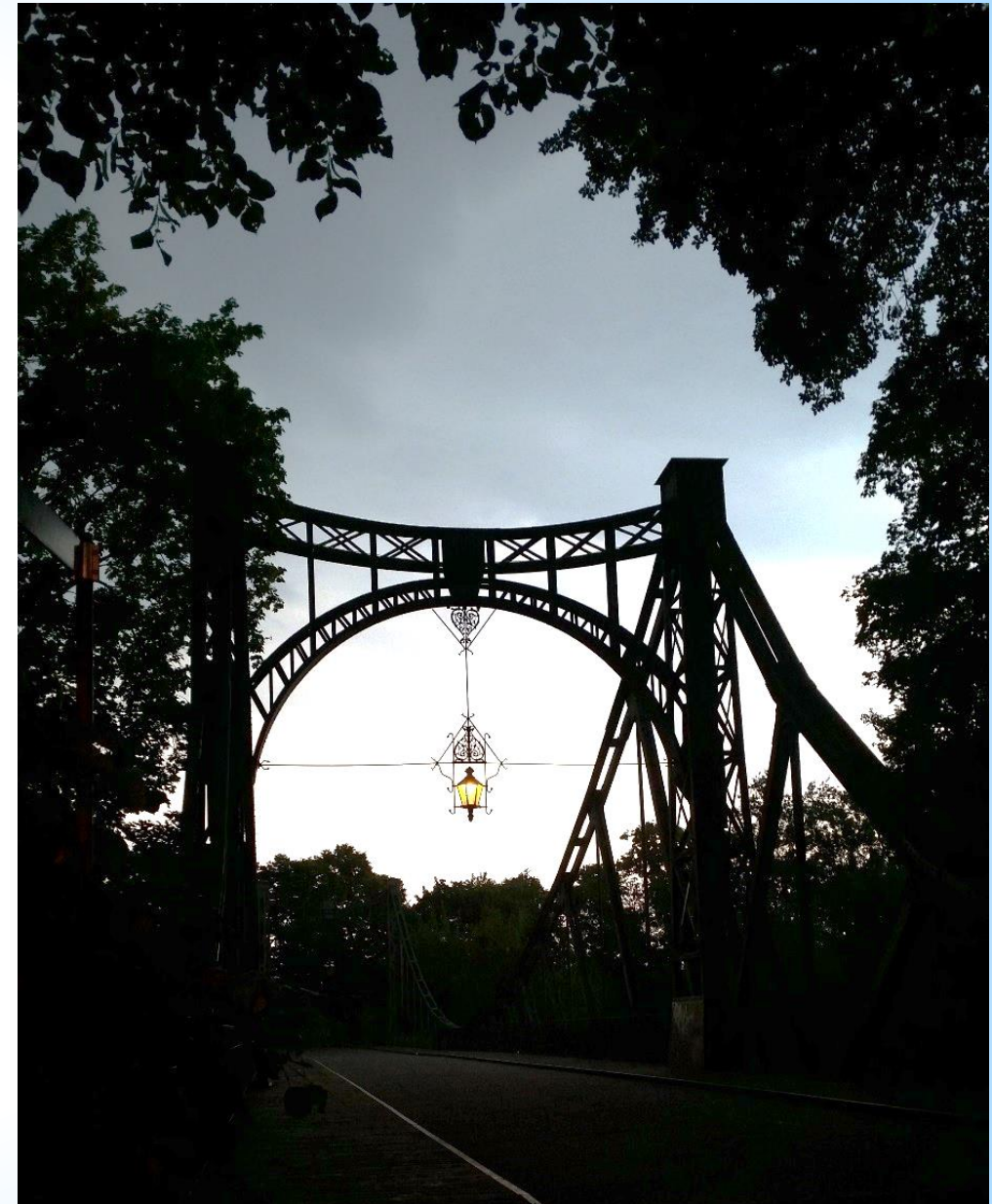
Thank You

Second Annual Science of Laws Conference.

San Diego, CA

7 November 2015

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Complexity = 101
Systemicity = 0.71

