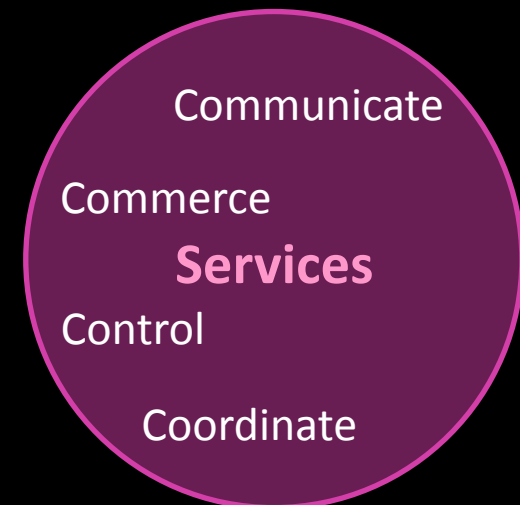
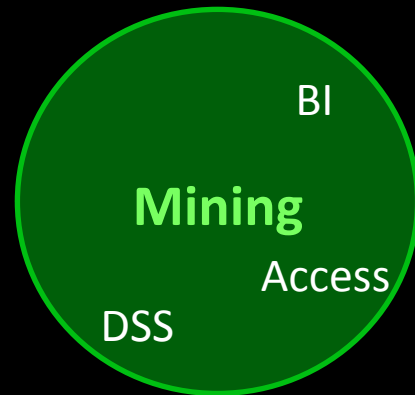


Ada: Made For The 3.0 World

**leveraging the strengths of Ada in the world of converging
cognition, semantics, emergence and high integrity**

James Sutton

What do people want to do on the web?



How did the Web evolve?

- Thread Index

- Re: KISS mode I know, but HOST mode?

- *From:* dolqci!sdcsvax!thumper.bellcore.com!karn@uunet (Phil R. Karn)

- AEA KISS/HOST mode

- *From:* dolqci!sdcsvax!wb6rqn!brian@uunet (Brian Lloyd)

- WB6RQN column in 73 magazine

- *From:* hqm%VALLECITO.SCRC.Symbolics.COM@Sdsc.BITnet

- finger support

- *From:* wsuecme!horne%uunet.UU.NET@Sdsc.BITnet

- TNC2 KISS problem?

- *From:* wsuecme!horne%uunet.UU.NET@Sdsc.BITnet

- Re: TNC2 KISS problem?

- *From:* karn%thumper.bellcore.com@Sdsc.BITnet (Phil R. Karn)

- net/rom manual

- *From:* dan%cs.wisc.edu@Sdsc.BITnet

- routing connectivity

- *From:* karn%ka9q.bellcore.com@Sdsc.BITnet (Phil Karn)

- next release

- *From:* winfree!bdale%trwind.ind.TRW.COM@Sdsc.BITnet (Bdale Garbee at winfree.n3eua.ampr)

- Phil's suggestion about link measurements

- *From:* maximo!mo%uunet.UU.NET@Sdsc.BITnet (Mike O'Dell)

Net 0.0: The "Arpanet"

[\[Date Prev\]](#)[\[Date Next\]](#)[\[Thread Prev\]](#)[\[Thread Next\]](#)[\[Date Index\]](#)[\[Thread Index\]](#)

Re: KISS mode I know, but HOST mode?

- *To:* goldstein%delni.DEC@decwrl.dec.com, tcp-group@sdcsvax.ucsd.edu
 - *Subject:* Re: KISS mode I know, but HOST mode?
 - *From:* dolqci!sdcsvax!thumper.bellcore.com!karn@uunet (Phil R. Karn)
 - *Date:* Fri, 29 Jan 1988 15:14:24
-

KISS is distinct from the PK232 "host" mode, despite the seeming confusion. It's just the way Steve Stuart decided to do the commands. If you have "kiss on" when you say "host on", you get a KISS TNC. If you have "kiss off" (!) when you say "host on", you get AEA's proprietary host mode.

Phil

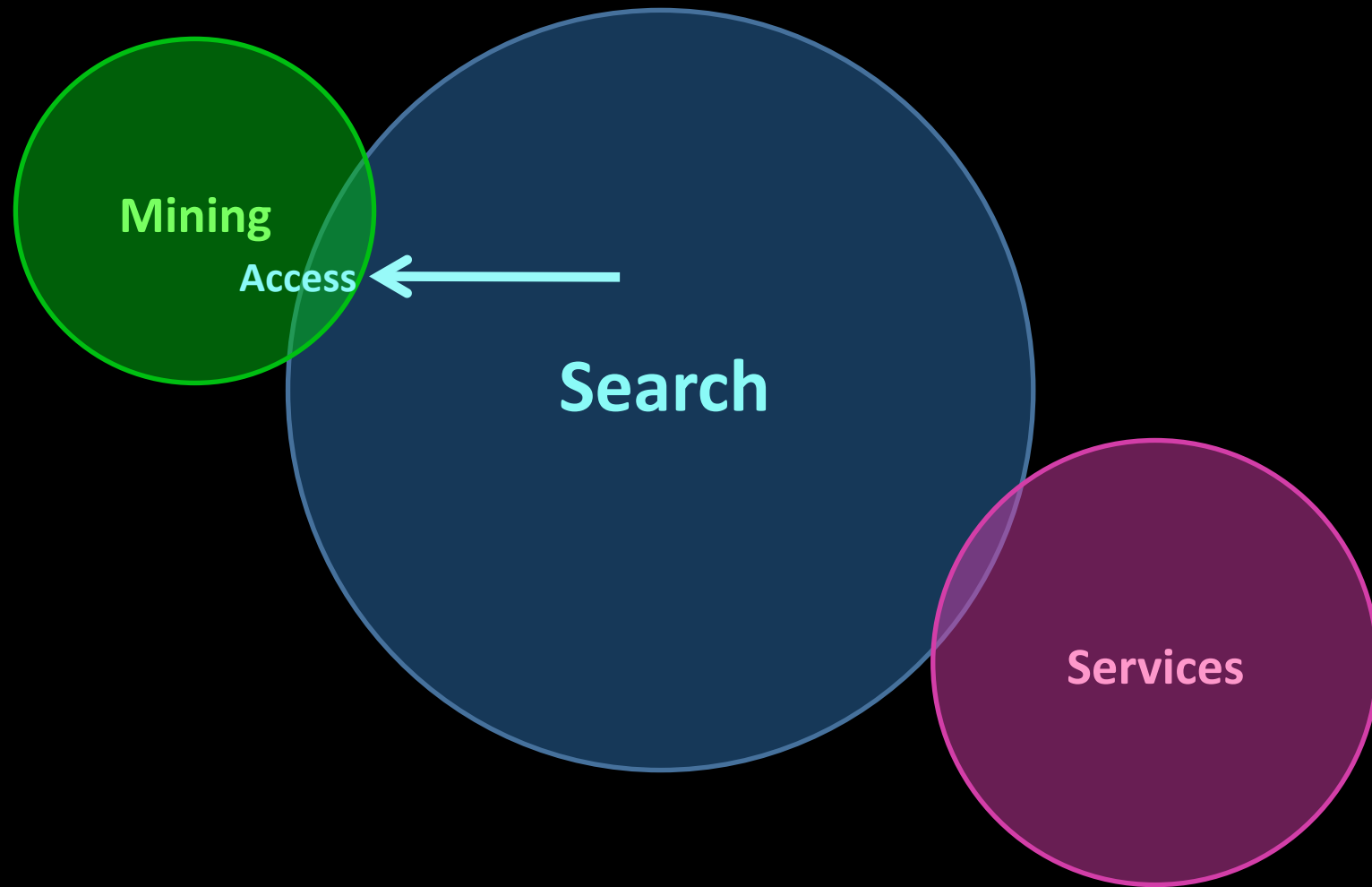
-
- Next by Date: [AEA KISS/HOST mode](#)
 - Next by thread: [AEA KISS/HOST mode](#)
 - Index(es):
 - [Date](#)
 - [Thread](#)

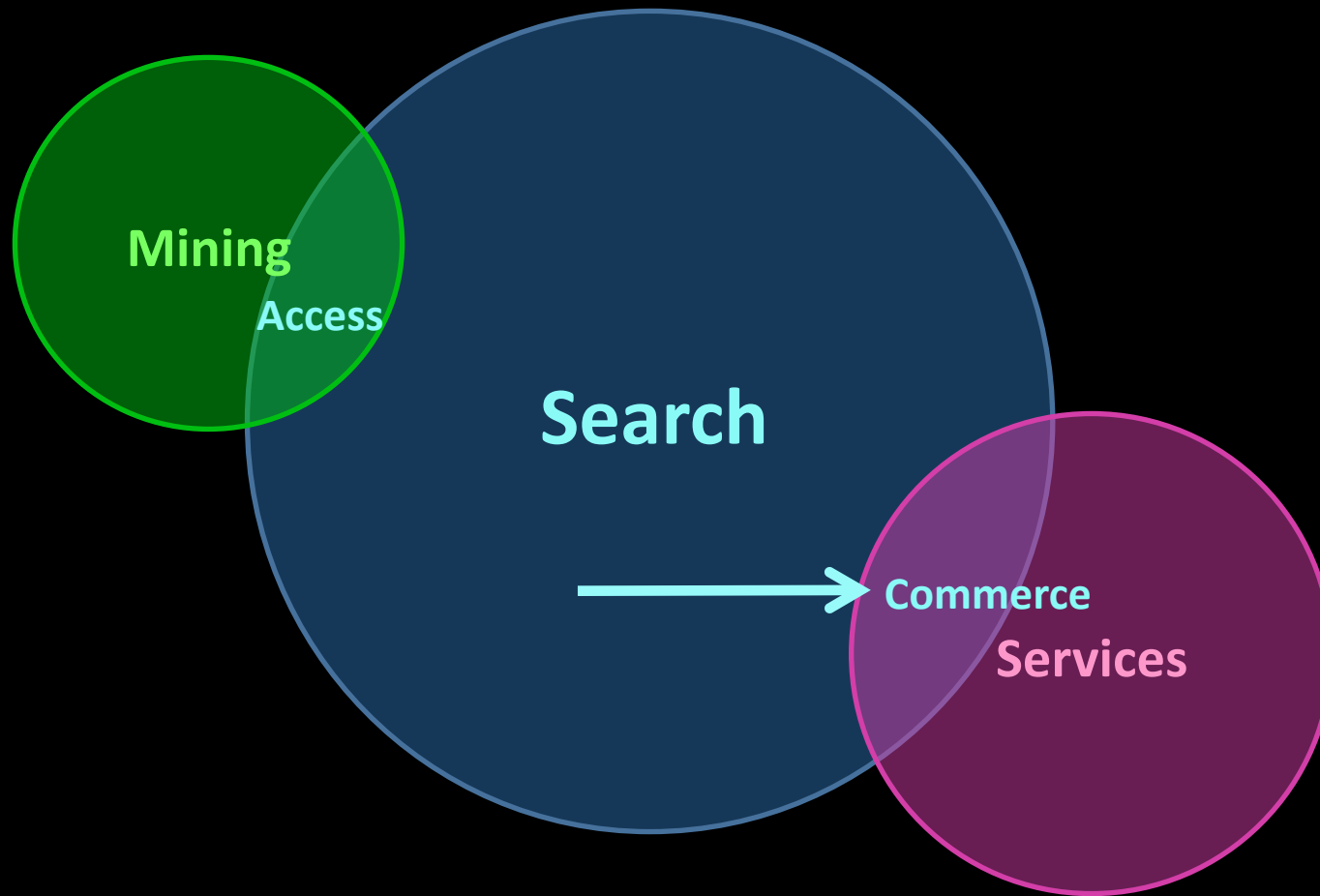


Mining

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20th Anniversary INCOSE International Symposium

INCOSE 2010

Chicago

12 – 15 July



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- Youth Engineering Education Outreach Program
- Awards

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- Early Exhibition Hall
- Over a dozen catered breakfast, lunch and social hour receptions
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Pre-conference July 10 - 11

- Saturday CSEP Course Part 1 (registration required)
- Sunday CSEP Course Part 2 (registration required)
- Lean SE
- Verification
- Requirements
- Basic SE
- IEEE Papers

Post Conference July 16

- Friday AM Tour to North Western Medical Training Centers
- PM Tour to Fermi Labs Accelerator

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News & Announcements

Working Group Meeting Space Request

Sunday, 13 June 2010 10:00 AM

The online request for meeting space is now closed. Please contact the INCOSE Manager (e-mail: incose.manager@incose.org) to request meeting space.

Registration is open

Monday, 12 March 2010 01:32

Find your information about registration for the symposium here...

"A one year membership is included in the Symposium Registration for non INCOSE Members!"

The on line reservation for the Hyatt Hotel.

Monday, 01 February 2010 12:34

The on line reservation for the Hyatt has been launched. [Click here](#) to visit the website.

INCOSE Chicago



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Web 1.0: The "Dissemination Web"

"I talk to you"



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The American Diabetes Association is leading the fight against the deadly consequences of diabetes and fighting for those affected by diabetes.

[Food & Fitness - Type 2 Diabetes - For Professionals](#)

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ADA: American Dental Association, Professional and Public resources. Find a dentist in your area. News and Events. Find an ADA member dentist.

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[American Dietetic Association](#) ☆

Nutrition information, resources, and access to Registered Dietitians provided by ADA and the National Center for Nutrition and Dietetics.

[www.eatright.org/](#) - [Cached](#) - [Similar](#)

[ADA Accessibility Guidelines](#) ☆

(ii) ADA Application. Where alterations are undertaken to a qualified historic building or facility that is subject to section 106 of the National Historic ...

[www.access-board.gov/adaan/html/adaan.htm](#) - [Cached](#) - [Similar](#)

[Ada \(programming language\) - Wikipedia, the free encyclopedia](#) ☆

Ada is a structured, statically typed, imperative, wide-spectrum, and object-oriented high-level computer programming language, extended from Pascal and ...

[en.wikipedia.org/wiki/Ada_\(programming_language\)](#) - [Cached](#) - [Similar](#)

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Audio Design Associates Product Suite ... 2009 Audio Design Associates, Inc. Other company and product names may be trademarks of their respective owners.

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[Americans for Democratic Action - Home](#) ☆

May 29, 2010 ... the nation's oldest independent liberal political organization, dedicated to individual liberty and building economic and social justice at ...

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[Alternative Distribution Alliance](#) ☆

Distributor of independent music in USA. Focus placed upon development and marketing artists signed to indie labels and selected projects from the Warner ...

[ada-music.com/](#) - [Cached](#)

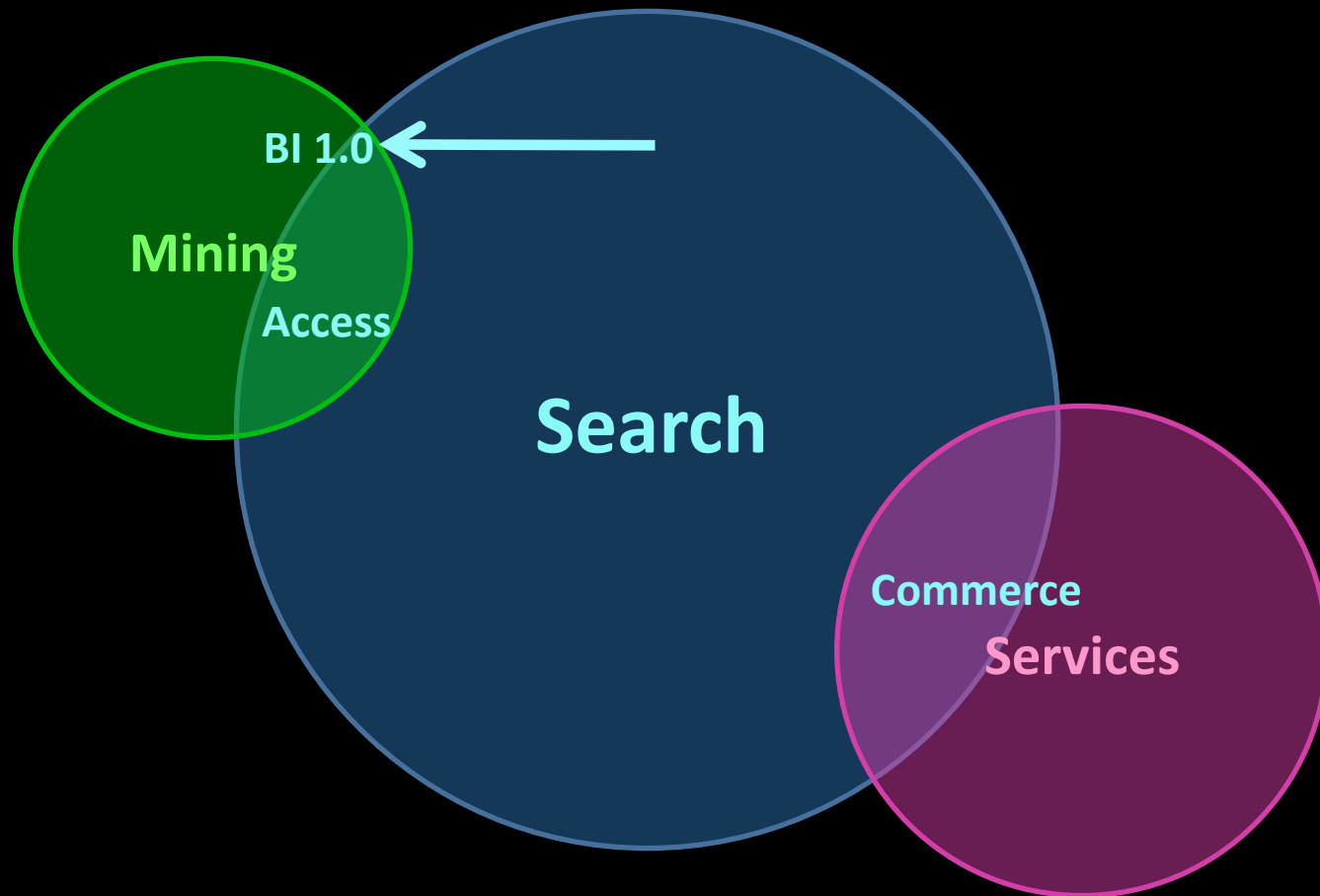
[ada - Wiktionary](#) ☆

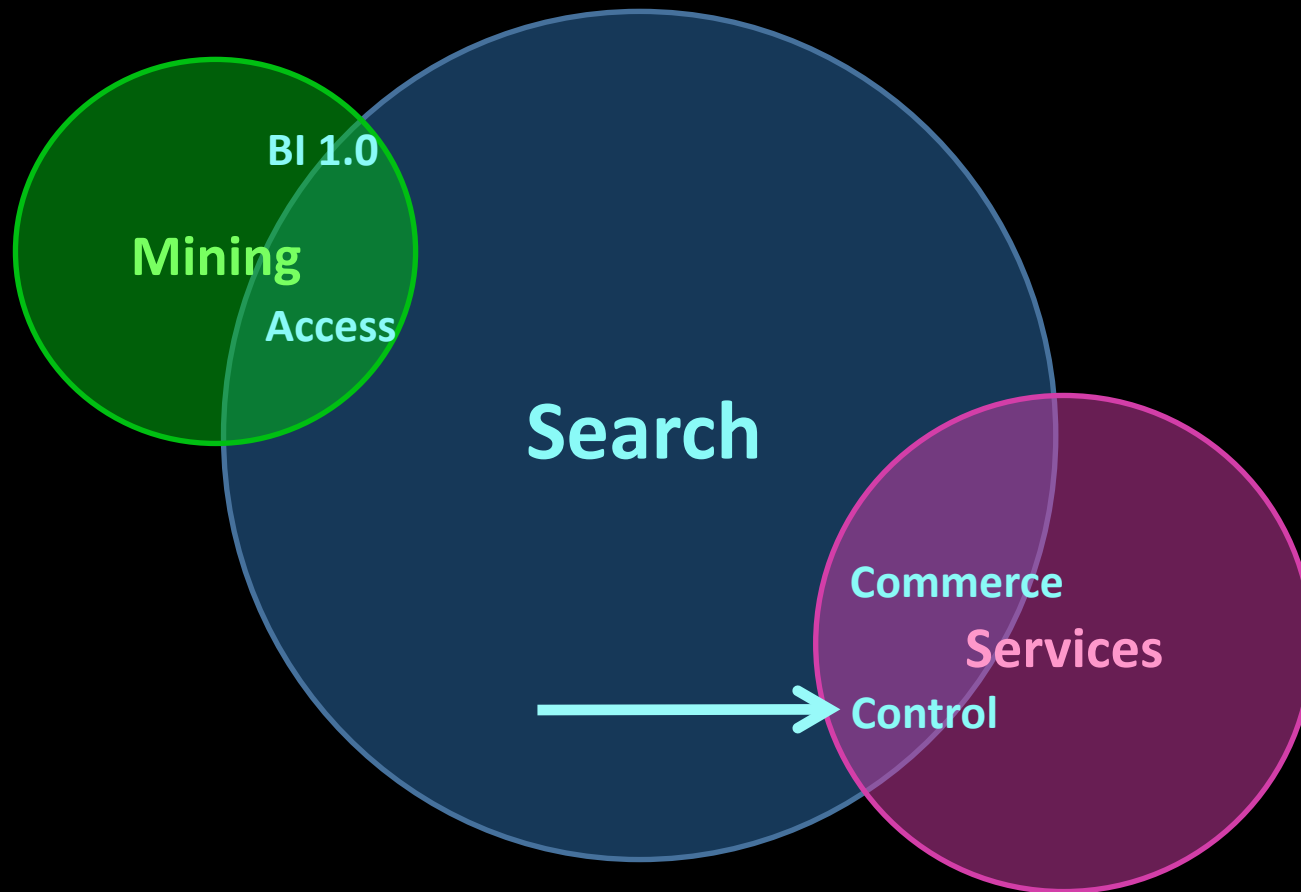
May 19, 2010 ... nominative, ada. genitive, adaniñ. dative, adaña. accusative, adani. locative, adada ... Retrieved from "http://en.wiktionary.org/wiki/ada" ...

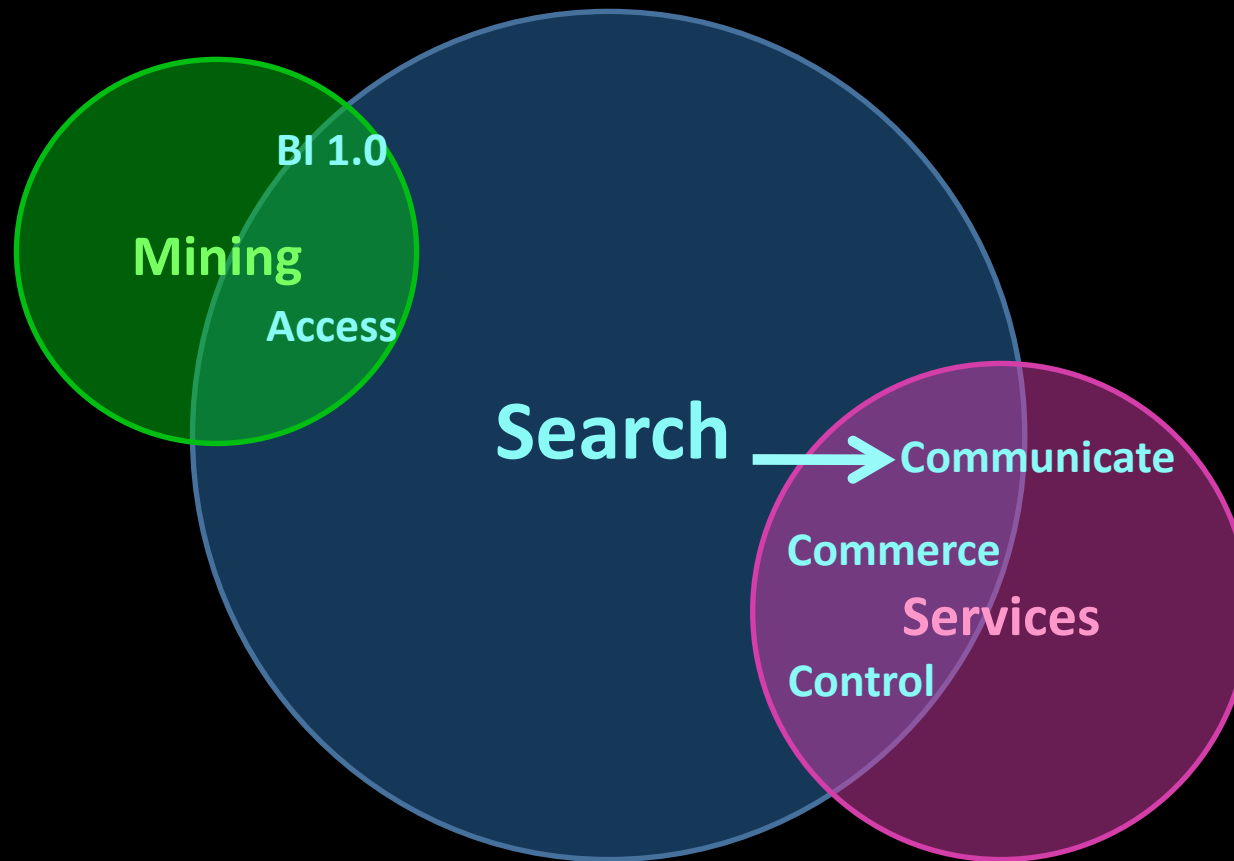
[en.wiktionary.org/wiki/ada](#) - [Cached](#) - [Similar](#)

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[Reliance ADA Explores Telecom-Stake Sales](#) - 3 days ago







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wikileaks Attack on humanitarian flotilla prompts little media skepticism | FAIR <http://bit.ly/cTdhRI> 7 hours ago

OfficialMotoGP Valentino Rossi ruled out of Gran Premio d'Italia TIM

New to Twitter? Twitter is a rich source of instant information. Stay updated. Keep your finger on the pulse. It's a whole thing. Give it a try >

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“We talk to each other”

Rick Perry | Facebook - Windows Internet Explorer

http://www.facebook.com/Governo

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Sign Up

Rick Perry is on Facebook. Sign up for Facebook to connect with Rick Perry.

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Information

Country: United States

Current Office

Office: Governor

State: Texas

Party: Republican Party

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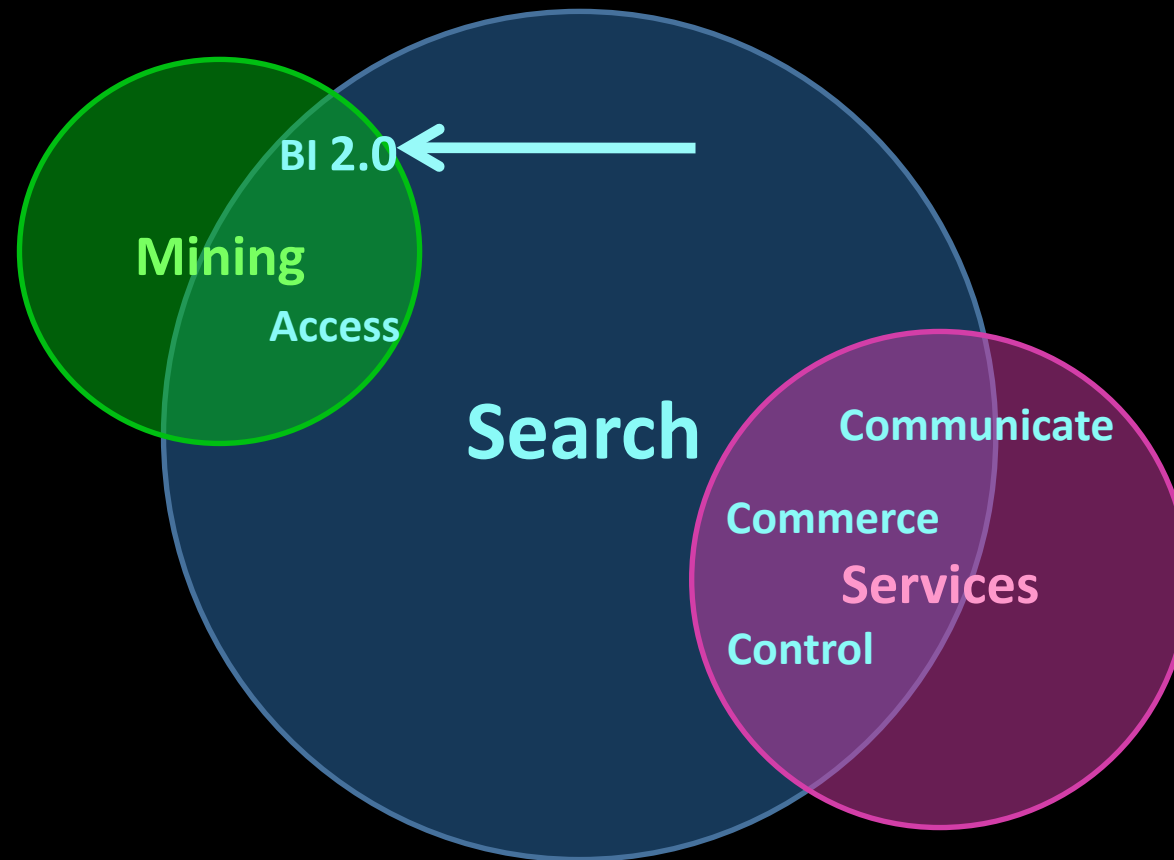
Tyler Blair Jeff Stokes Antonio Moreno Rodriguez

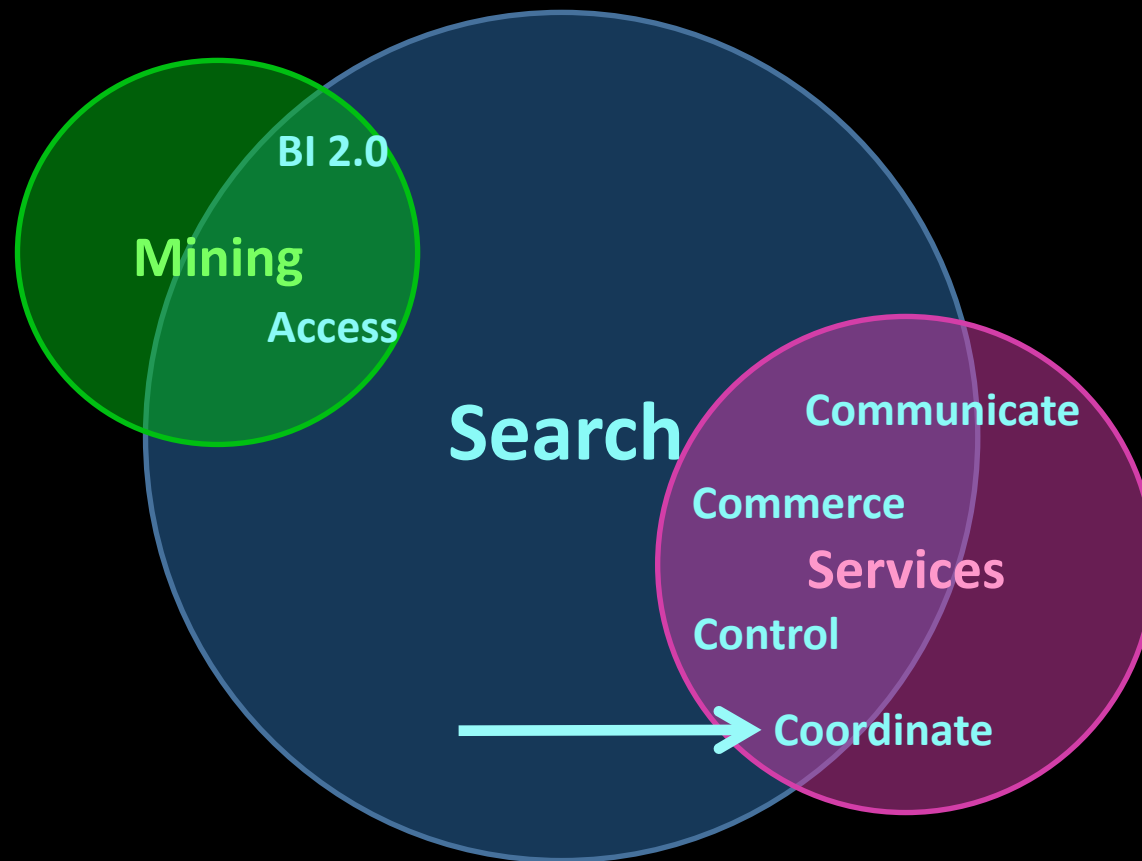
I Am A Texas Republican
www.youtube.com
This video, and its Spanish counterpart, debuted at the 2010 Republican Party of Texas convention. Script: My name is _____, and I am a proud Texas Republican. I am a Republican because I believe in equal opportunity for all Americans. ...
Yesterday at 12:28pm · Comment · Like · View Feedback (203) Hide Feedback (203)
Bill Avant, Vidal Gonzalez, Skip Davis and 118 others like this.
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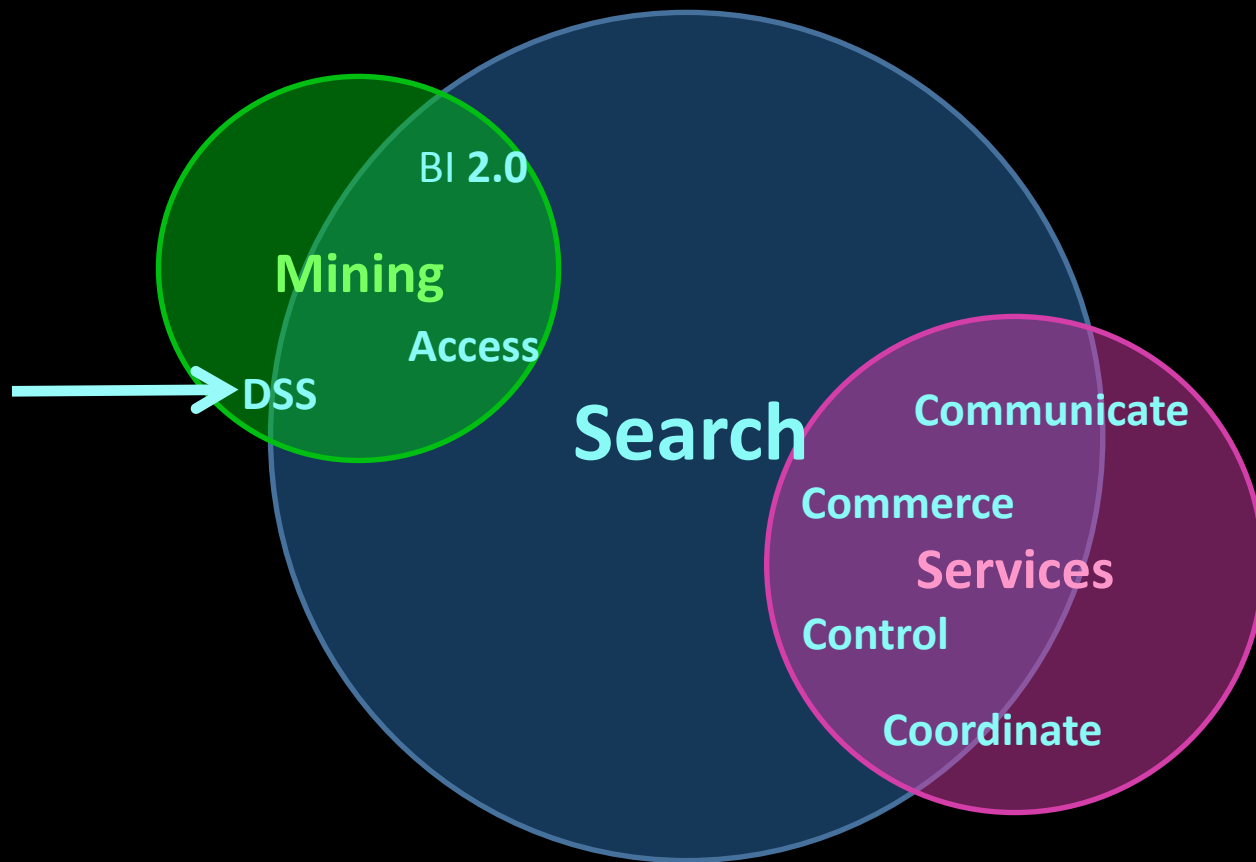
Rick Perry Texas public schools performing well on Newsweek's new list of America's Best High Schools.

America's Best High Schools: The List - Newsweek
www.newsweek.com
With 8% of the U.S. population, Texas has 20% of the top 20 and 14% of the top 100 of the top public high schools in the nation.
Monday at 8:21am · Comment · Like · View Feedback (159) Hide Feedback (159)
Deborah Silver, Robert Ramirez, Dave Carney and 109 others like this.
View all 47 comments

Rick Perry Check out Part 2 of 2 from the RightOnline booth at the Republican Party of Texas State Convention.





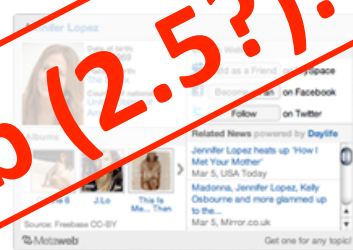


Plug in to Metaweb to get great content from the web's best sources.



TopicBlocks for Bloggers

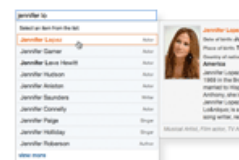
TopicBlocks are free content widgets that you can add to your blog posts in seconds.



The Metaweb Wordpress plugin makes using TopicBlocks even easier.

APIs and Feeds for Publishers

TopicSuggest adds topic tagging to your website with a single line of JavaScript.



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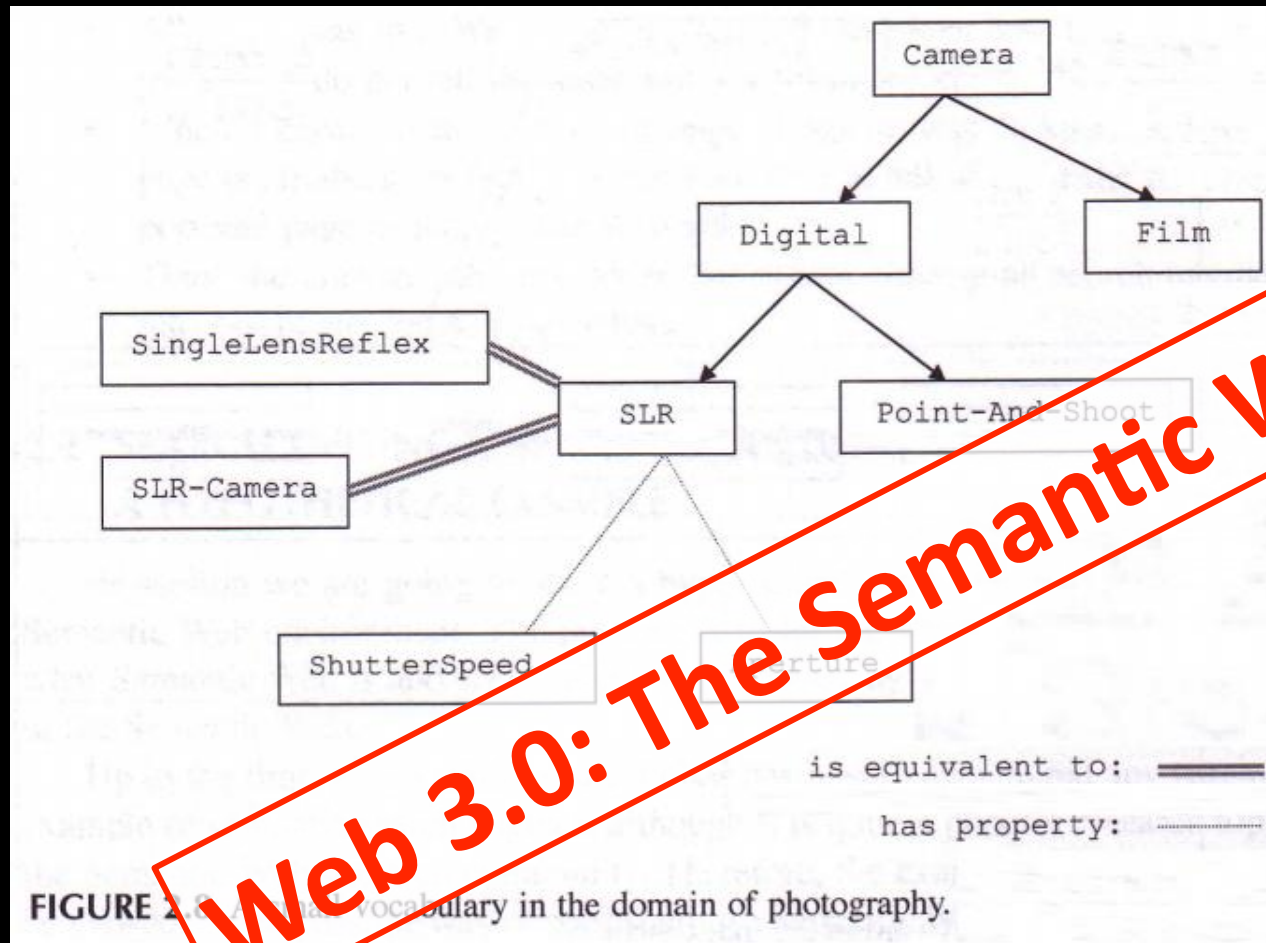
Our free API connects you to open data about 12 million topics. Custom APIs use the same powerful query language, tailored to your needs and connected to any of our content providers.

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Web (2.5?): The "(Stitched) Social Web"

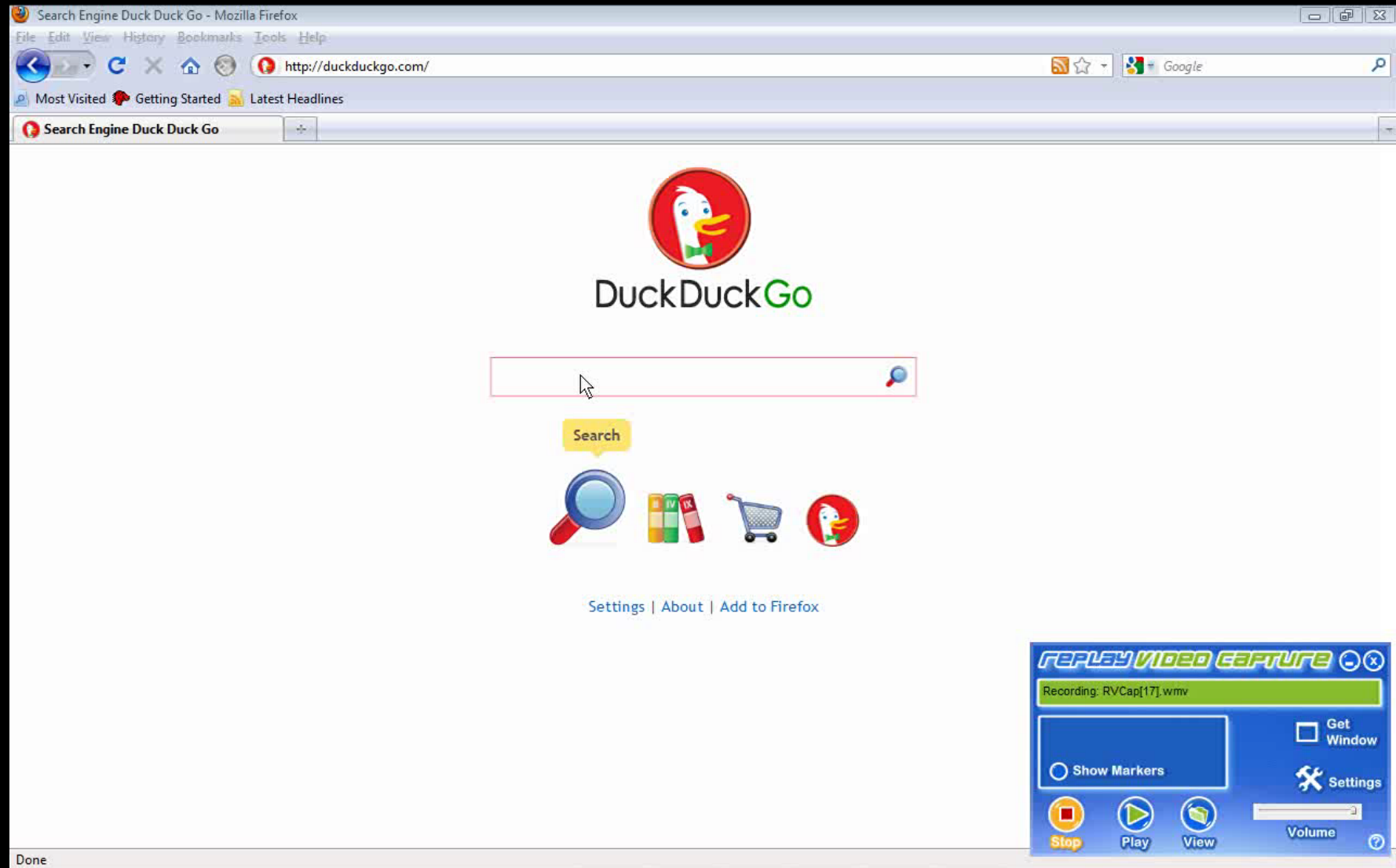
"We talk to each other... more efficiently"



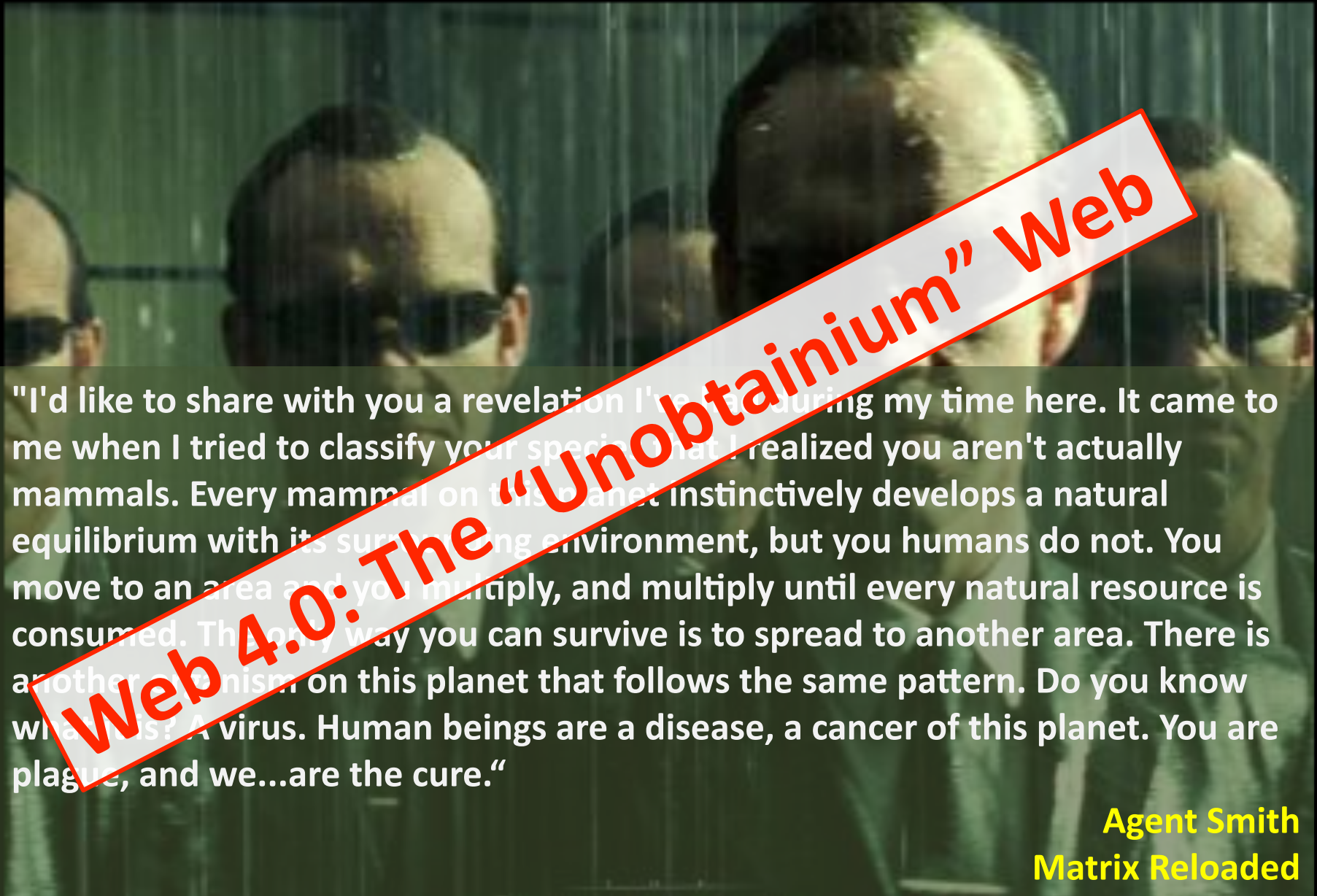
(graphic is from
“Semantic Web and
Semantic Web Services,”
by Liyang Yu)

“For [artificial-intelligence and Web researchers]...an ontology is a document or file that **formally defines the relations among terms**. The most typical kind of ontology for the Web has a **taxonomy** and a **set of inference rules**.”

Tim Berners-Less, James Hendler, and Ora Lassila; “The Semantic Web,”
Scientific American (May 2001).



**“We ask the web questions...
and in limited situations, it ‘understands’ us and give useful answers”**

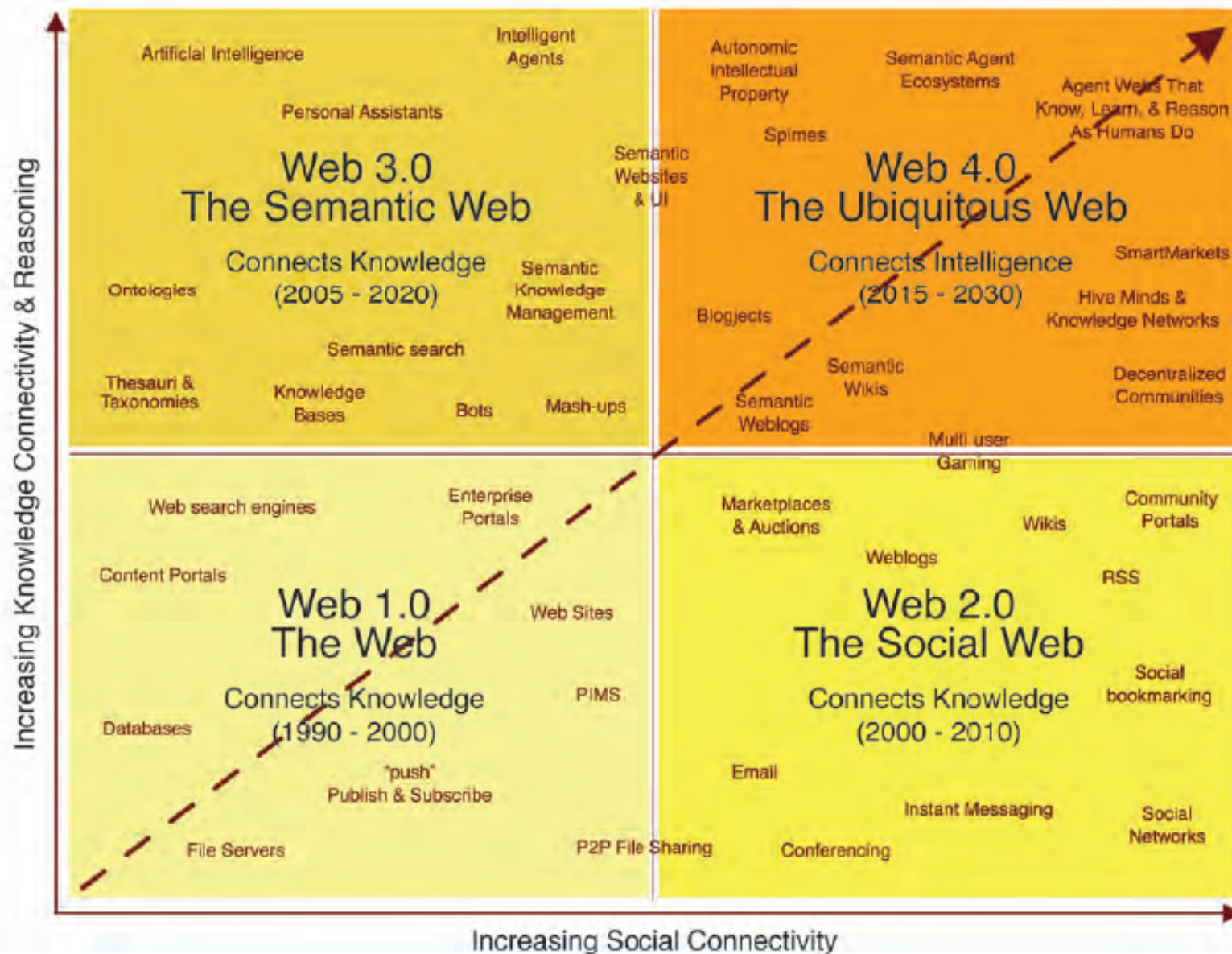


"I'd like to share with you a revelation I've discovered during my time here. It came to me when I tried to classify your species that I realized you aren't actually mammals. Every mammal on this planet instinctively develops a natural equilibrium with its surrounding environment, but you humans do not. You move to an area and you multiply, and multiply until every natural resource is consumed. The only way you can survive is to spread to another area. There is another organism on this planet that follows the same pattern. Do you know what it is? A virus. Human beings are a disease, a cancer of this planet. You are plague, and we...are the cure."

Agent Smith
Matrix Reloaded

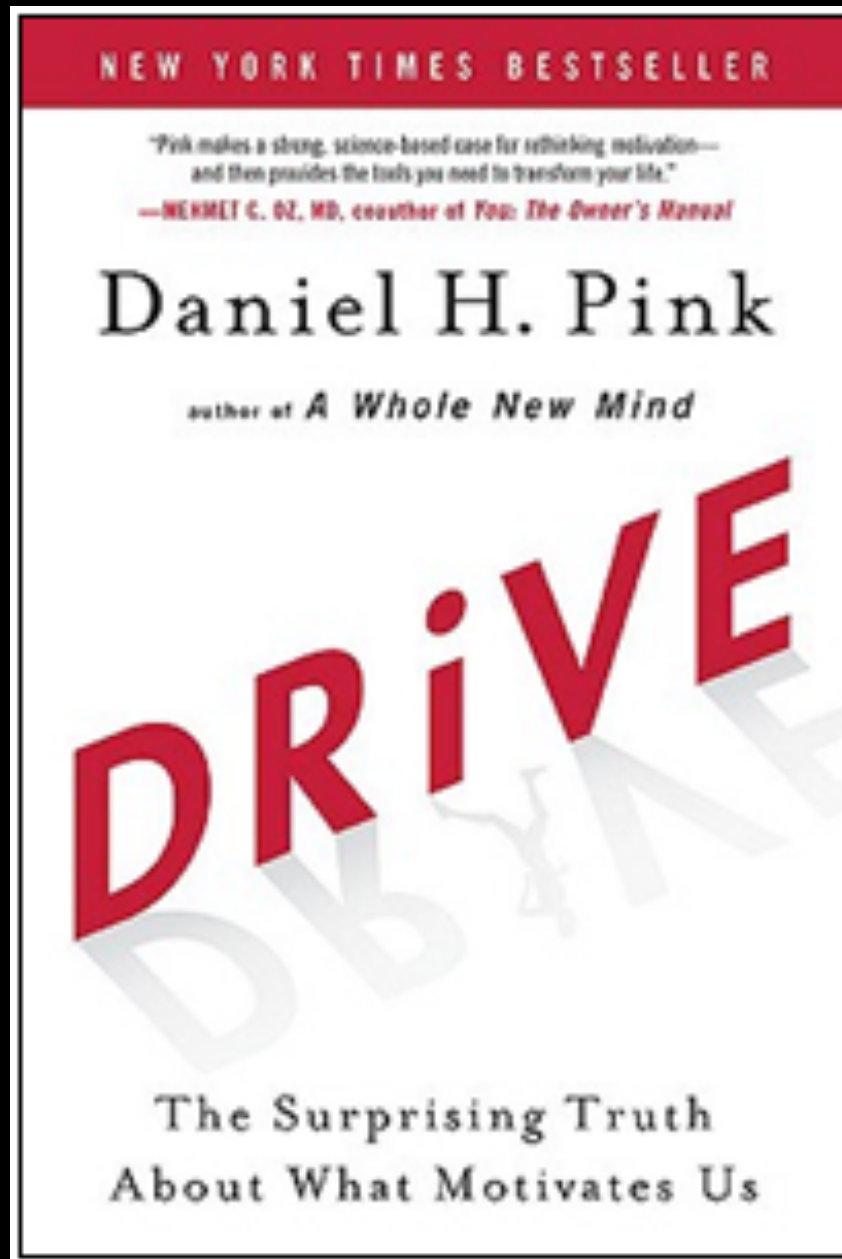
"The web talks to us"

Internet Evolution



www.semantic-conference.com

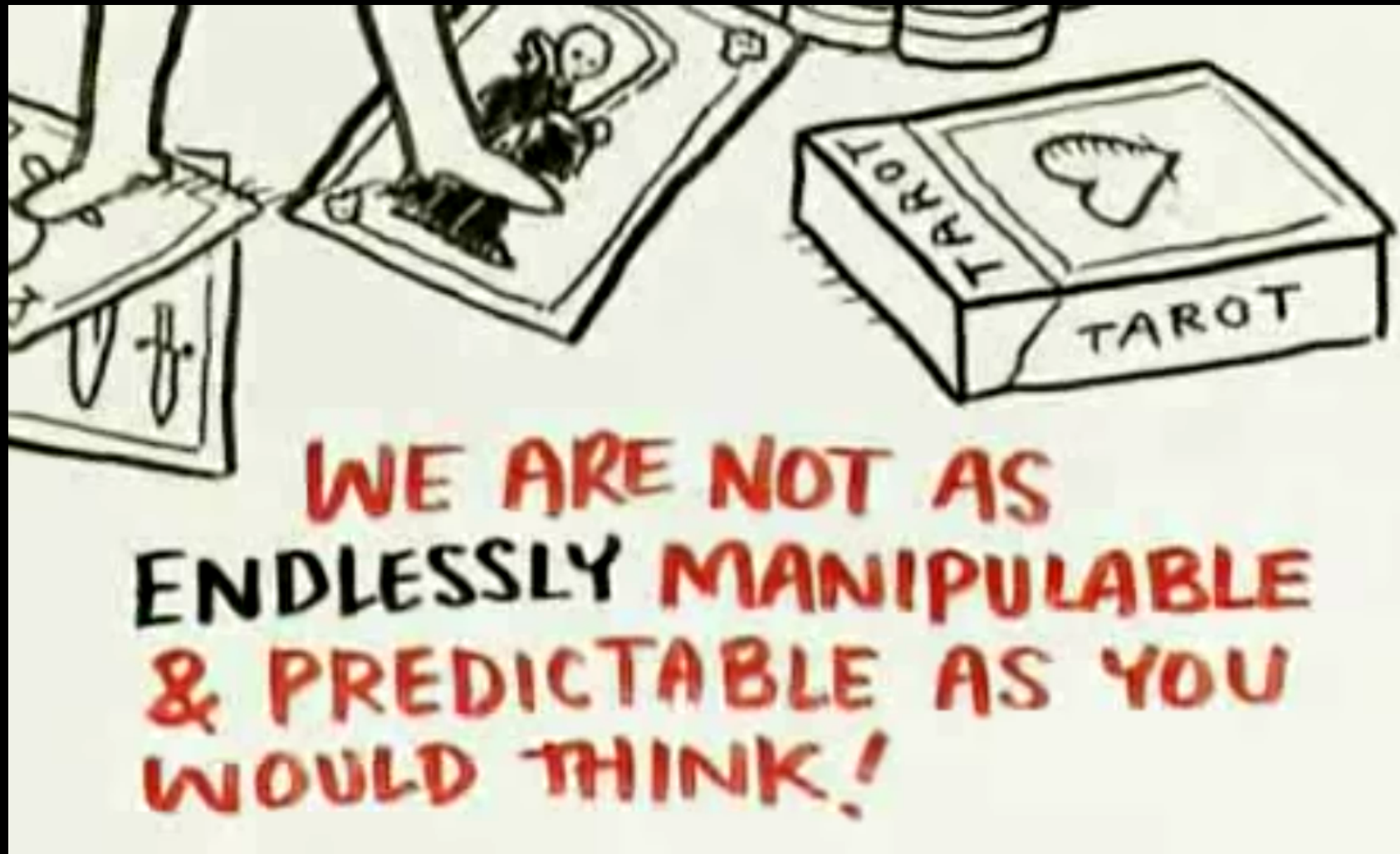




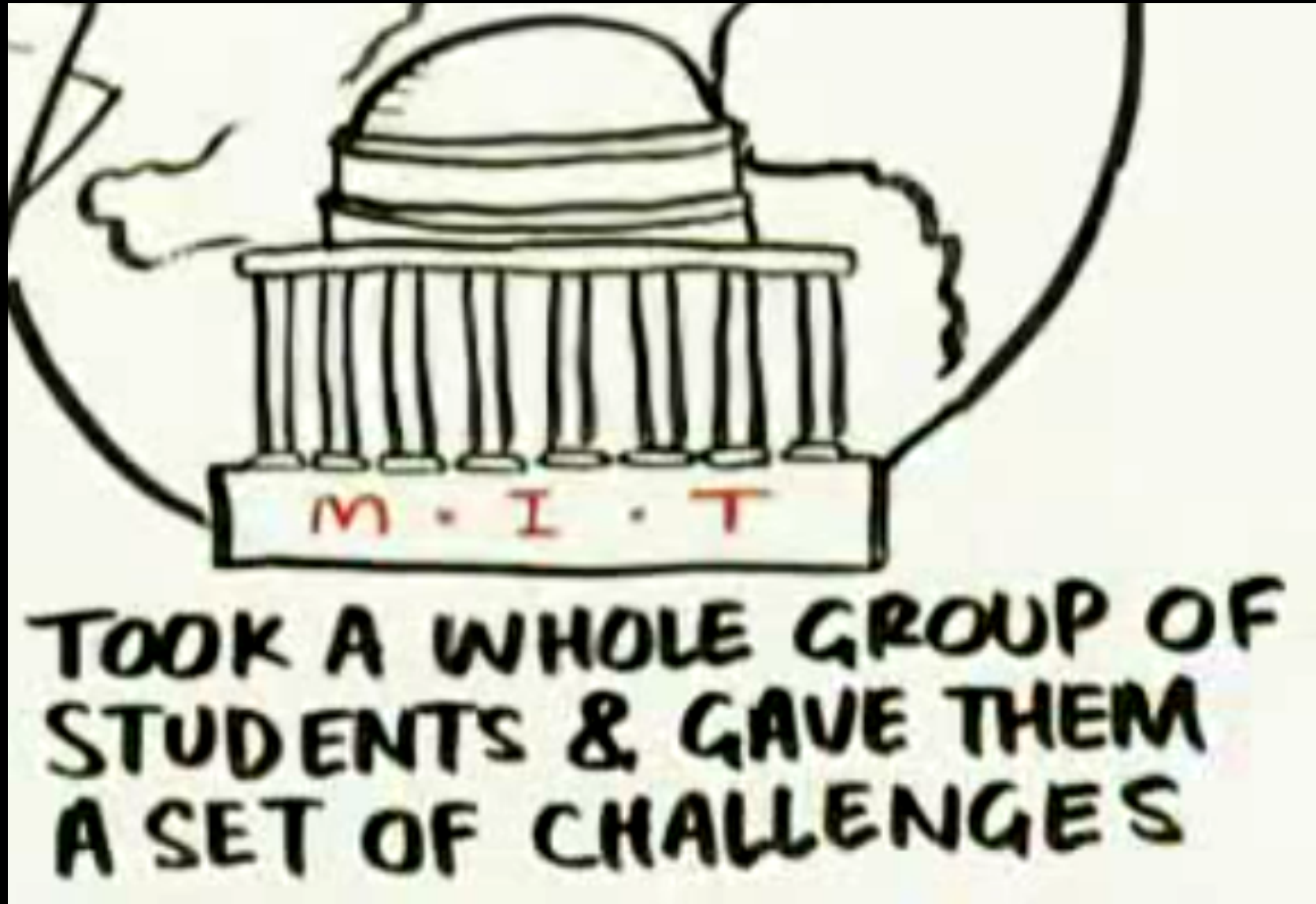
“Drive: The Surprising Truth About What Motivates Us” ...

“uses 50 years of behavioral science to overturn the conventional wisdom about human motivation and offer a more effective path to high performance”

danpink.com



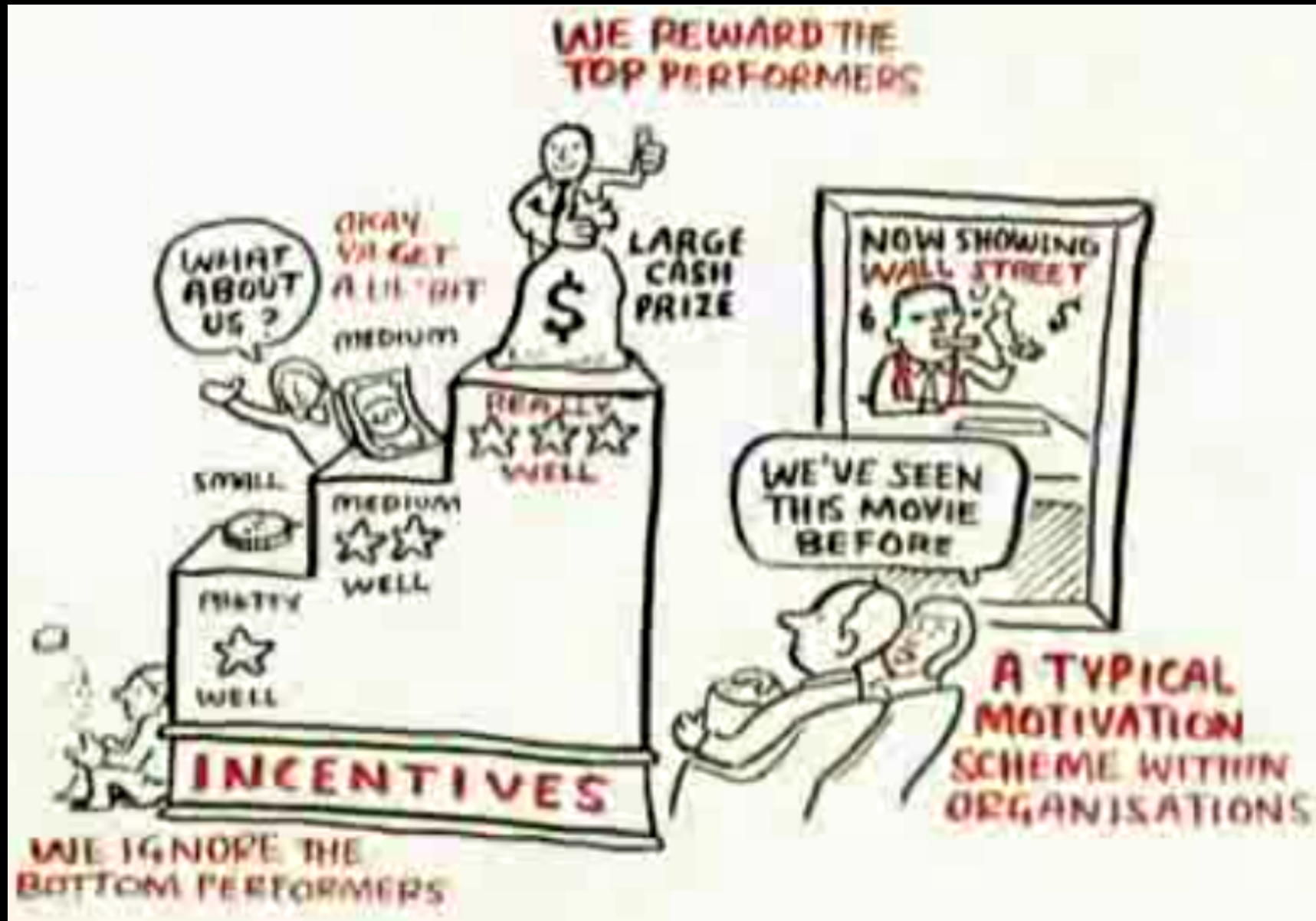
From a talk by Daniel Pink,
illustrated by theRSA.org



From a talk by Daniel Pink,
illustrated by theRSA.org



From a talk by Daniel Pink,
illustrated by theRSA.org



From a talk by Daniel Pink,
illustrated by theRSA.org



From a talk by Daniel Pink,
illustrated by theRSA.org



From a talk by Daniel Pink, illustrated by theRSA.org



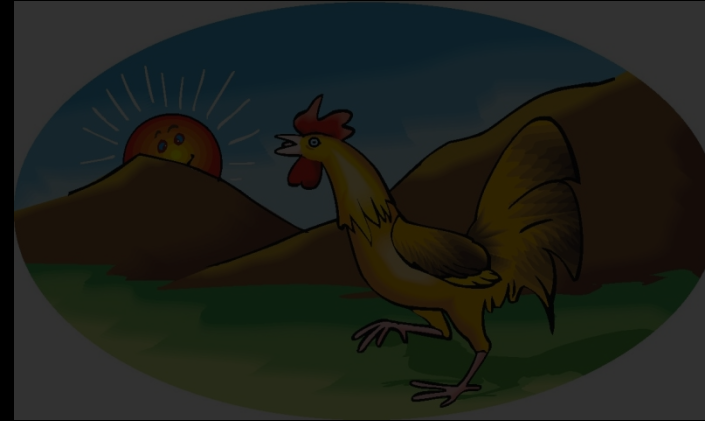
From a talk by Daniel Pink,
illustrated by theRSA.org

“For to say that, assuming the earth moves and the sun stands still, all the appearances are saved better than with eccentrics and epicycles, is to speak well; there is no danger in this, and it is sufficient for mathematicians.

“But to want to affirm that the sun really is fixed in the centre of the heavens and only revolves around itself (i.e., turns upon its axis) without travelling from east to west, and that the earth is situated in the third sphere and revolves with great speed around the sun, is a very dangerous thing.”

Cardinal Bellarmine, Letter to Foscarini April 12th 1615
(Repeated from cognitive-edge.com)

assuming simple causality



jumping on bandwagons



force-fitting new information



chasing "stable" patterns

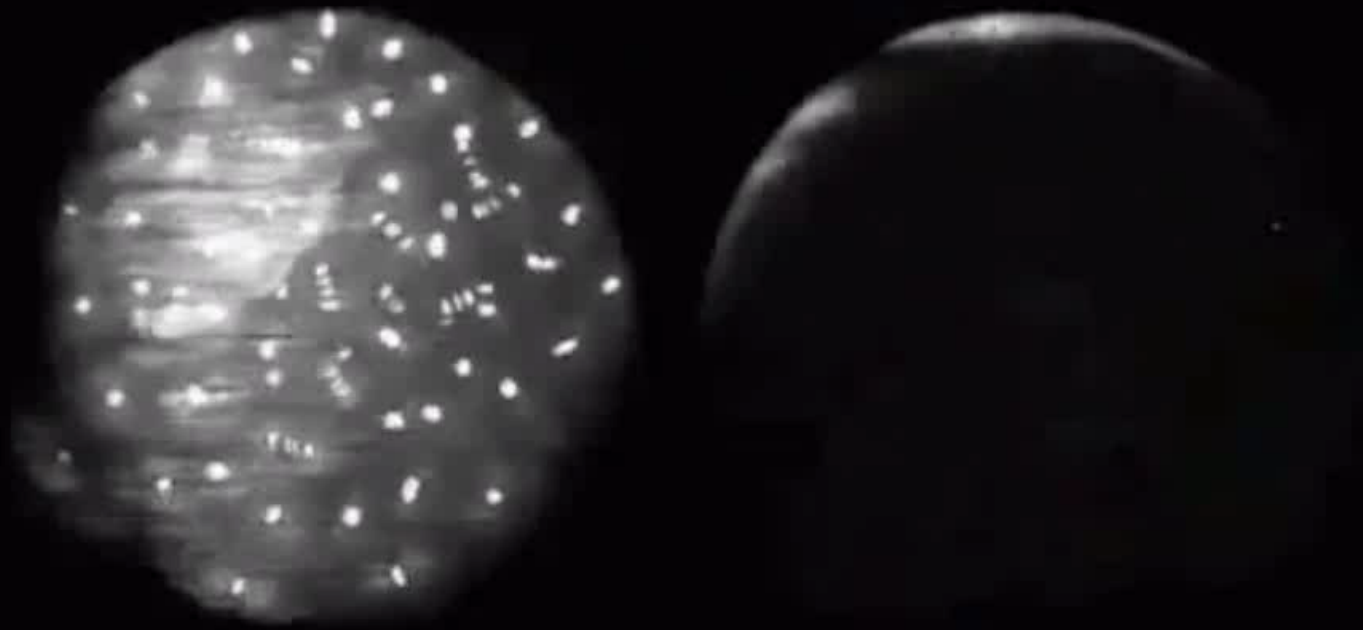
Chaos Theory Complexity Theory



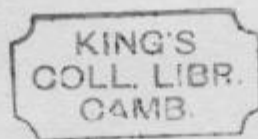
Alan Turing:
b. 1912 - d. 1954

“We now know that some kinds of systems cannot be developed using fixed, formal processes. They are called “complex” systems” (from a Turing paper)

BBC FOUR



Morphogenesis



[37]

THE CHEMICAL BASIS OF MORPHOGENESIS

By A. M. TURING, F.R.S. *University of Manchester*

(*Received 9 November 1951—Revised 15 March 1952*)

It is suggested that a system of chemical substances, called morphogens, reacting together and diffusing through a tissue, is adequate to account for the main phenomena of morphogenesis. Such a system, although it may originally be quite homogeneous, may later develop a pattern or structure due to an instability of the homogeneous equilibrium, which is triggered off by random disturbances. Such reaction-diffusion systems are considered in some detail in the case of an isolated ring of cells, a mathematically convenient, though biologically unusual system. The investigation is chiefly concerned with the onset of instability. It is found that there are six essentially different forms which this may take. In the most interesting form stationary waves appear on the ring. It is suggested that this might account, for instance, for the tentacle patterns on *Hydra* and for whorled leaves. A system of reactions and diffusion on a sphere is also considered. Such a system appears to account for gastrulation. Another reaction system in two dimensions gives rise to patterns reminiscent of dappling. It is also suggested that stationary waves in two dimensions could account for the phenomena of phyllotaxis.

“One development of the last 30 years...is that of
classifying different problems in terms of their complexity”

www.turing.org.uk

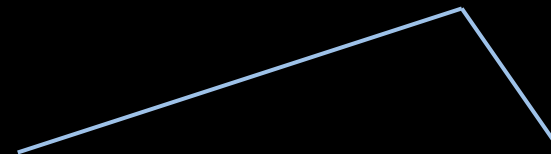
Unordered ← | → Ordered



Unordered ← ————— | ————— → Ordered



Simple



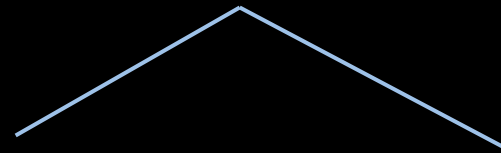
The answers are already known,
and are self-evident to everyone involved

Unordered ← ————— | ————— → Ordered

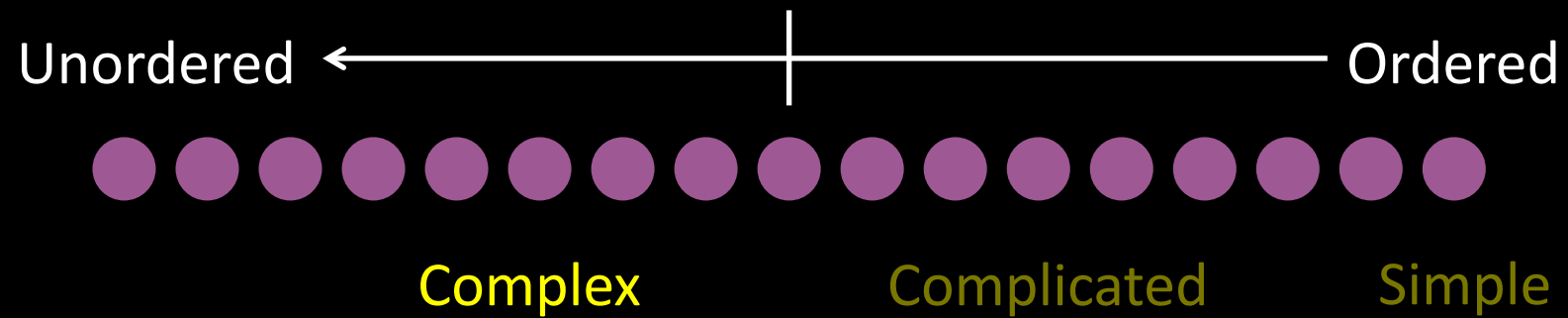


Complicated

Simple



The answers can be found,
but only using experts and additional research



There are no “answers;” only patterns of interaction that can
be detected through experimentation and observation

Unordered ← ————— | ————— → Ordered

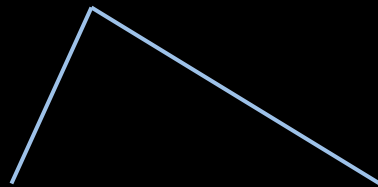


Chaotic

Complex

Complicated

Simple



There are no answers
and no knowable patterns

How to organise a Children's Party

Video at <http://www.youtube.com/watch?v=Miw92eZaJg>

Unordered ← ————— | ————— → Ordered



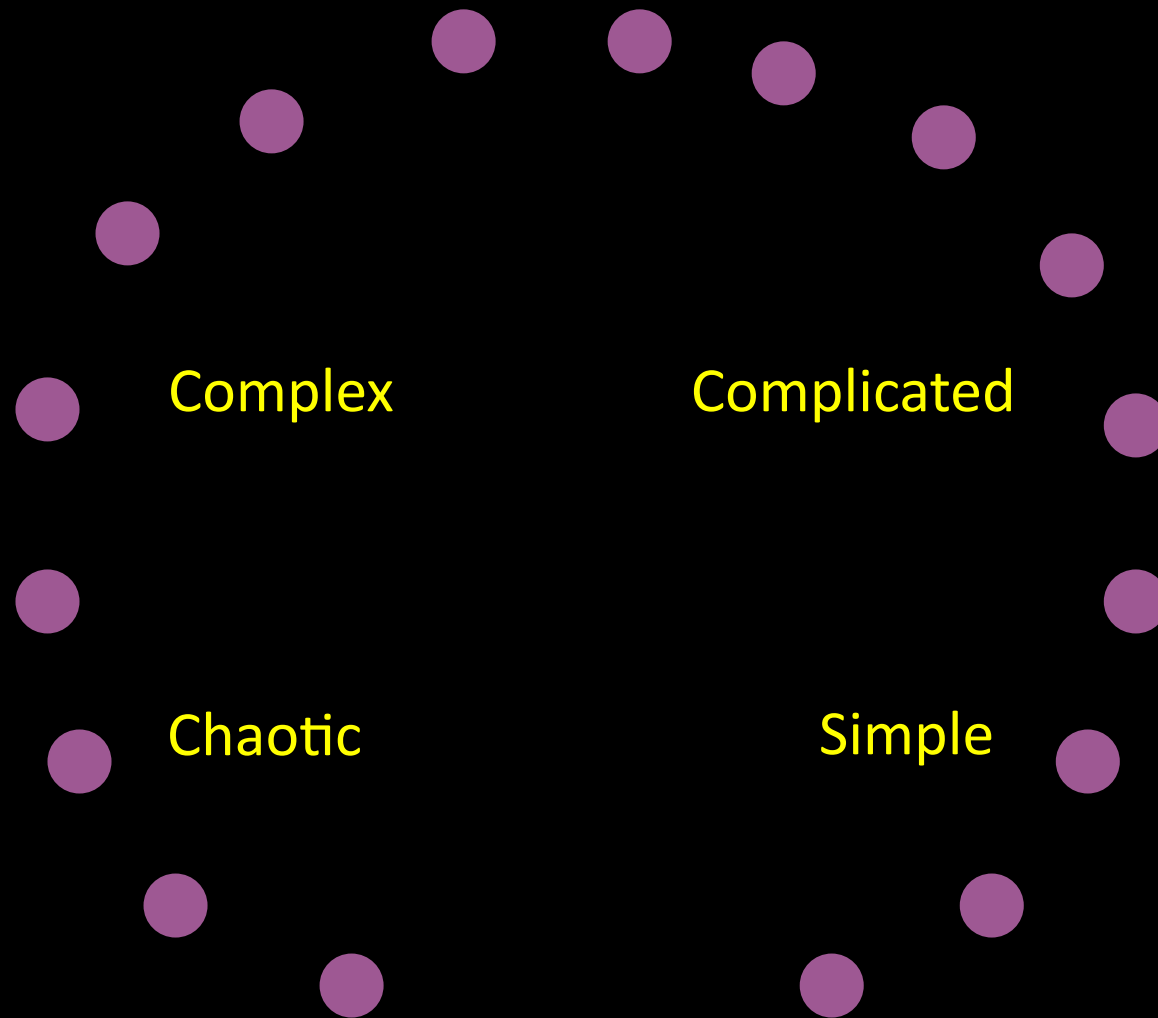
Chaotic

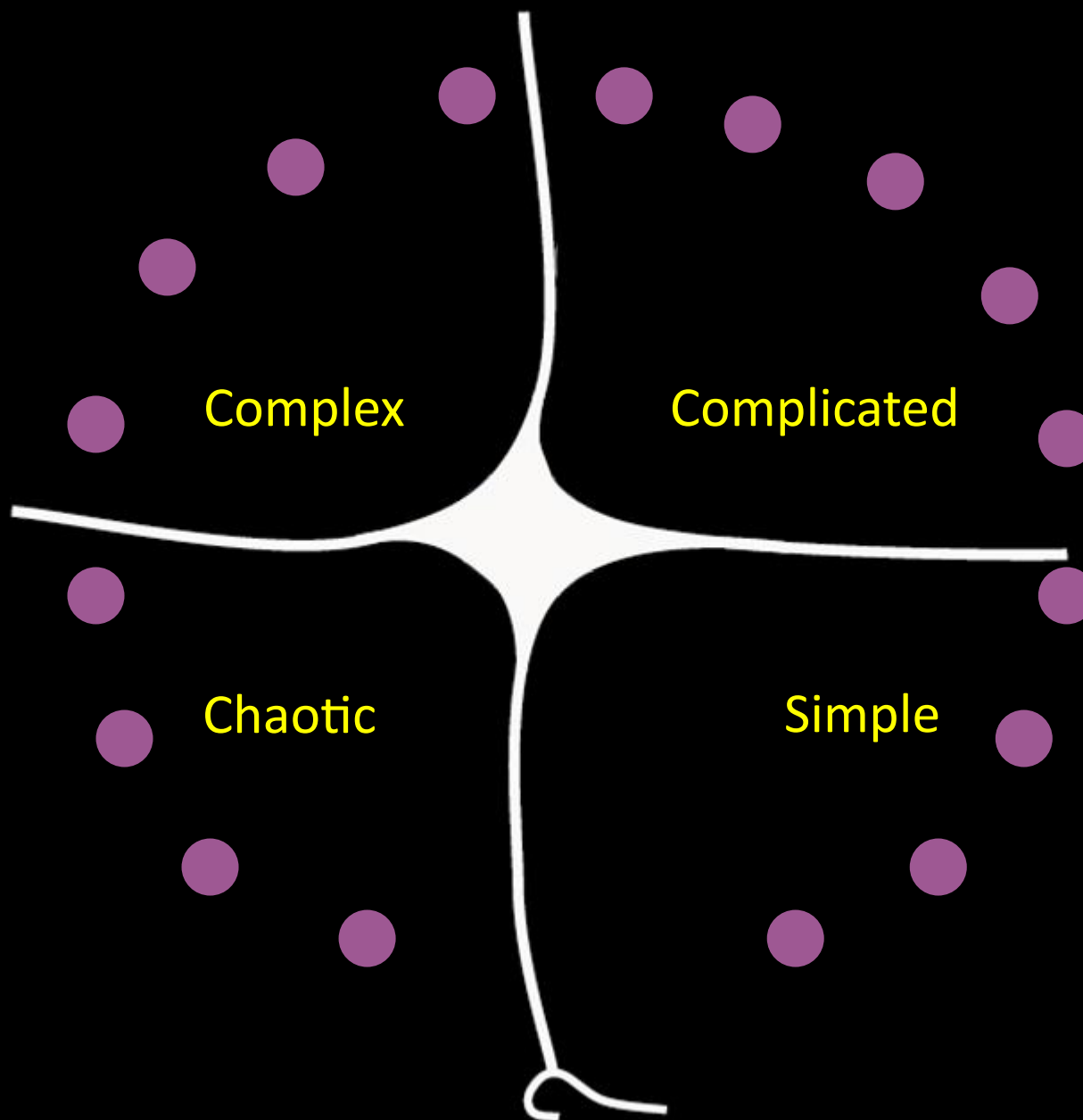
Complex

Complicated

Simple

^
System







Complex

Complicated

Chaotic

Simple

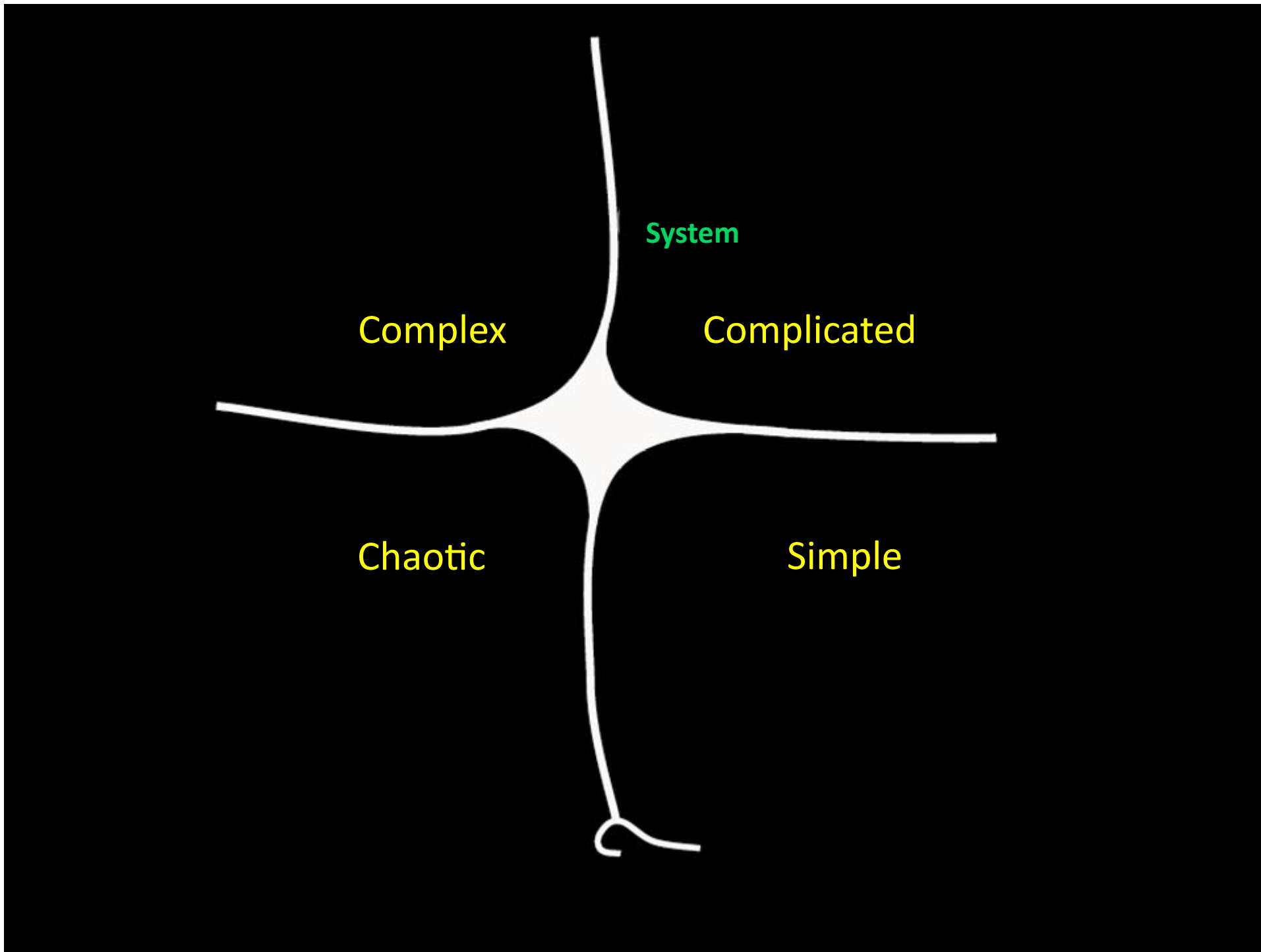
System

Complex

Complicated

Chaotic

Simple



system for
detecting
terrorist activity
on internet

Complex

Probe
Sense
Respond

Emergent

Complicated

Sense
Analyse
Respond

Good practice

aerodynamics
control system
for new aircraft

system for
where you
don't know
who's the real
customer, or
what they
really want
(merger
situation?)

Chaotic

Act
Sense
Respond

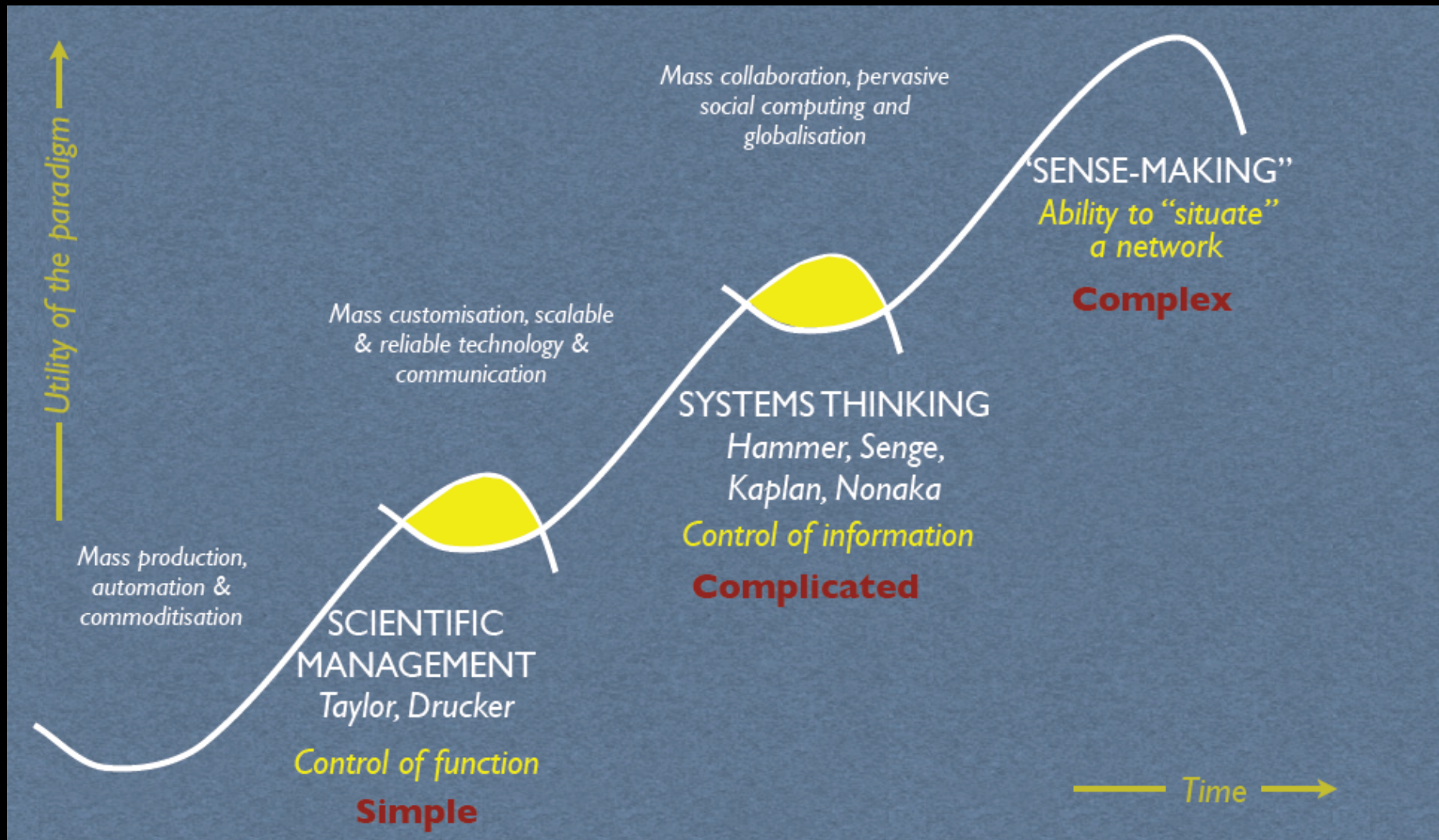
Novel

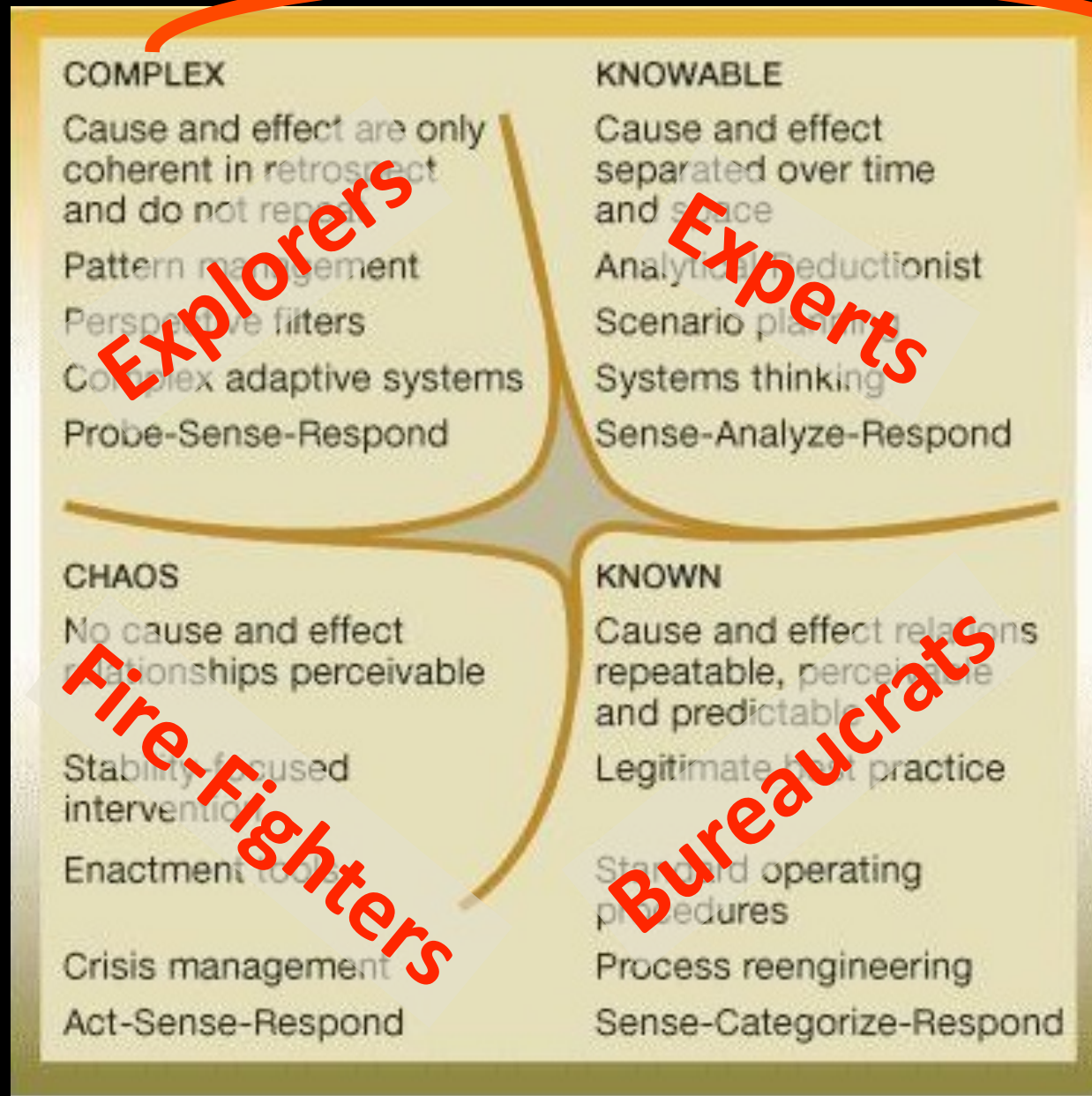
Simple

Sense
Categorise
Respond

Best practice

double-entry
bookkeeping
application





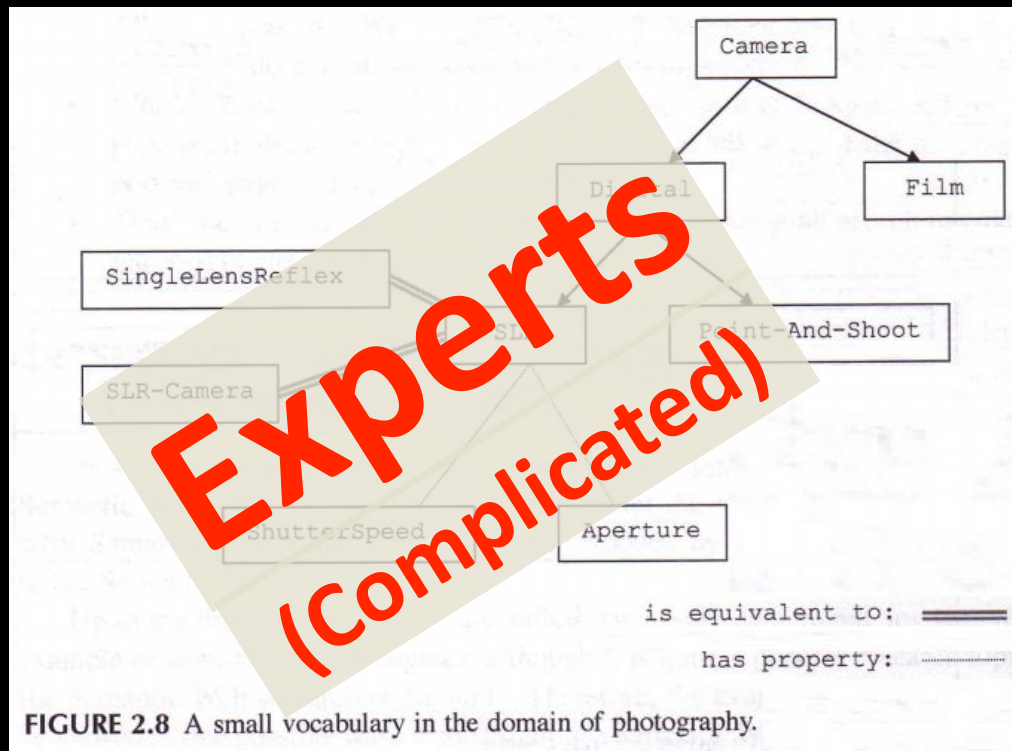
‘Directed emergence: design by manipulative evolution’

‘design now is “constant vigilance” ’

Sources:

- Graphic: Kurtz, C. F., and D. J. Snowden. “The new dynamics of strategy: Sense-making in a complex and complicated world.” *IBM Systems Journal* 42(3), 462-483
- Quotes: Sarah Sheard, “Complex Systems Sciences, SE, and KM,” KM-MCES2006

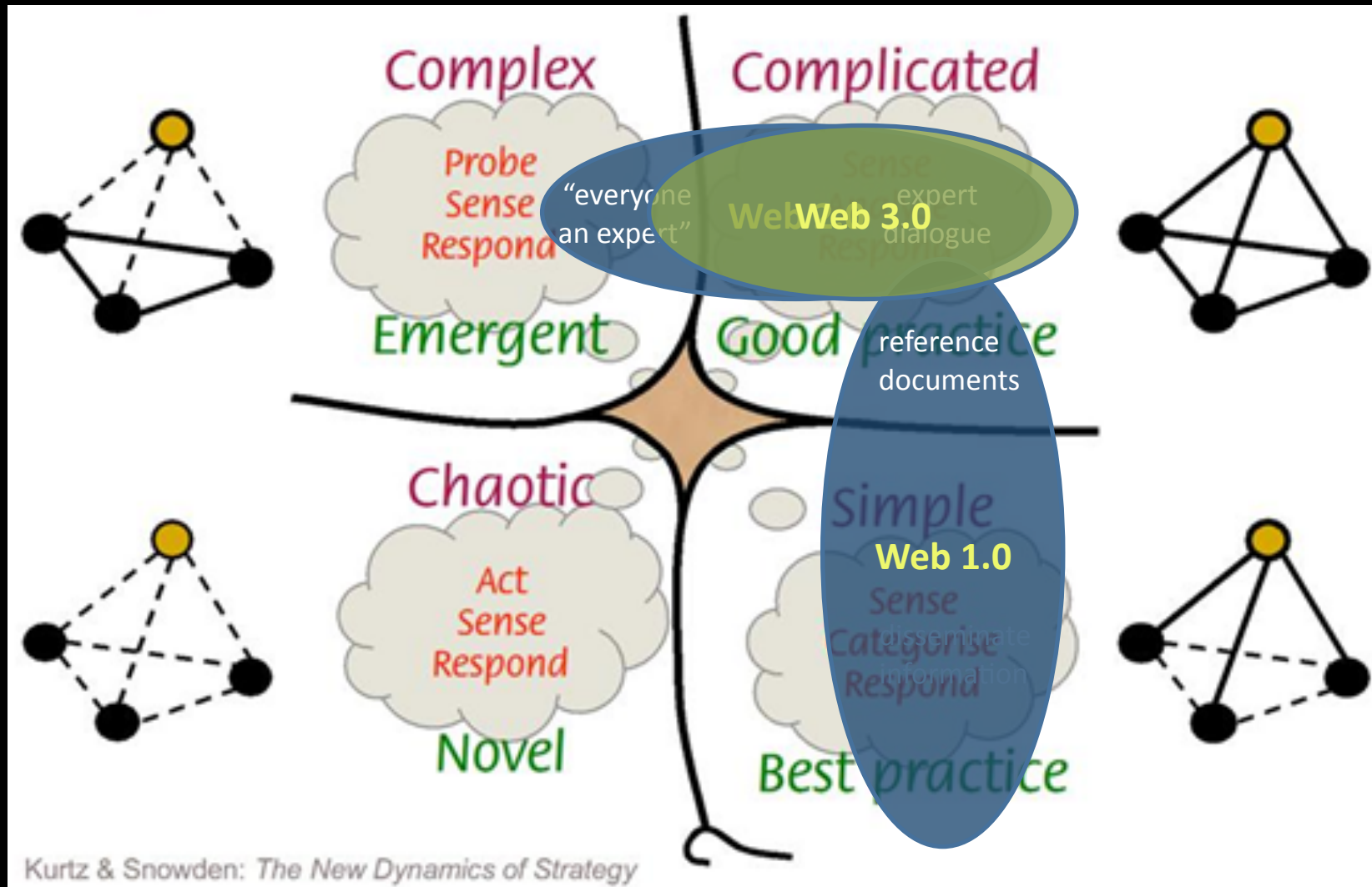
So, is the real 3.0 world...



OR, ...



What about the software part of it?





We have found it stimulating to have the "minutes" of the meeting in **pictures** rather than **words**, it has **provoked a different conversation and different thoughts**. In one of our meetings there was a particular image, which captured my imagination - **just the picture made me rethink** the way I was considering the restructuring of the business. I don't know if we would have come up with the strategy if it hadn't been for that image!

Vivienne Cox
Exec VP and CEO of Alternative Energy



www.sbs.com.au

SBS



Web 3.0



“I find it very natural [in Ada] to think in terms of a set of autonomous agents that coordinate with one another and have individual functions that they perform.

www.silverthornengineering.com

Objections

“Our development lifecycle (customer, etc.) does not allow us to use the emergent and Lean principles in the 3.0 world, and thus receive the benefits of these Ada strengths”

Answer: Kanban has been brought in from the Lean world, and has been providing better results on Agile criteria (velocity, etc.) than traditional Agile approaches.

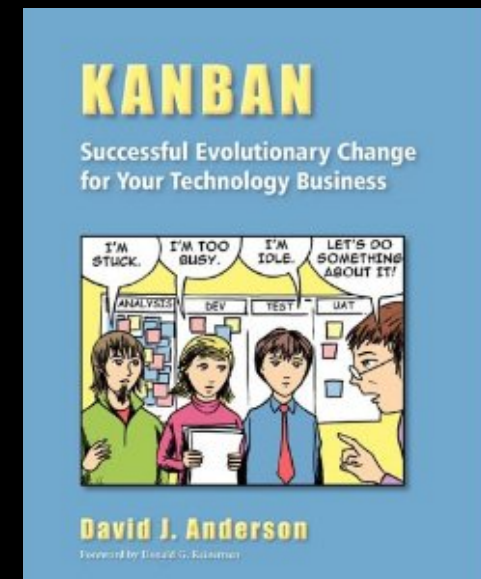
Kanban can be used with any lifecycle model—waterfall, iterative, RUP, ...—allowing incremental improvements until arriving at a much-improved process

<http://www.dennisstevens.com/2010/06/07/kanban-and-when-will-this-be-done/>

“Ada’s not dynamically typed, so it’s too hard (inefficient, etc.) to use in 3.0-world development”

Answer: Take the lifecycle view vs. the coding view.
The extra effort pays off in error detection and avoidance.

The advantages of dynamic typing in metaprogramming are somewhat offset by the strengths of Ada in its generics



“Ada's failure [to catch on]... had to do with the inherent mismatch between the [Ada] conceptual model of multitasking and the serial architecture models of the processors on which it had to be implemented.

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