

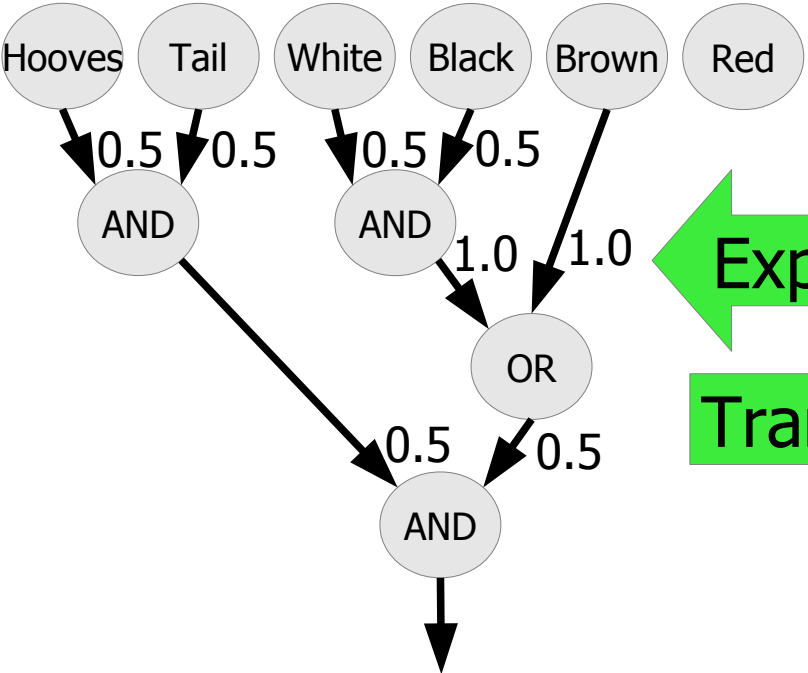
Knowledge Editors & Languages and in Webstructor and Agents[®] + Graph Engines for Uncertain Inference

Anton Kolonin
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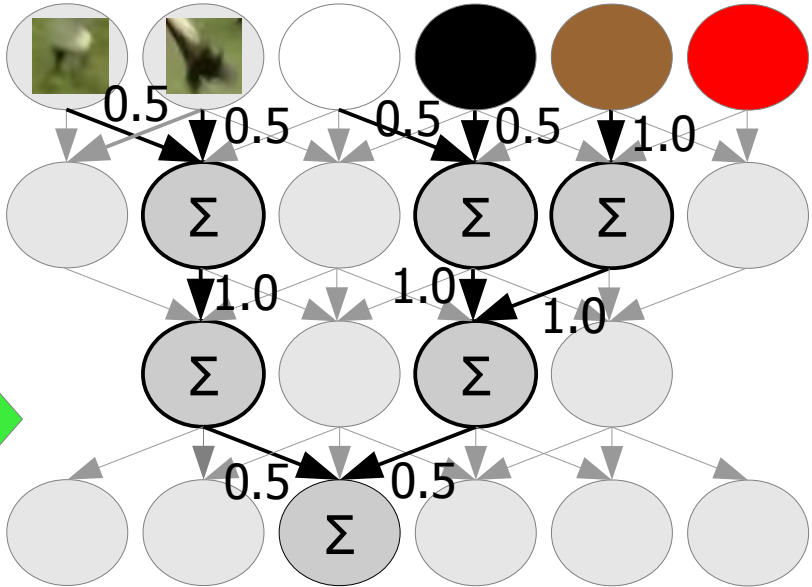
SingularityNET
<https://singularitynet.io>

Bridging the Symbolic-Subsymbolic gap for “explainable AI” and “transfer learning”



← Explain

Transfer →

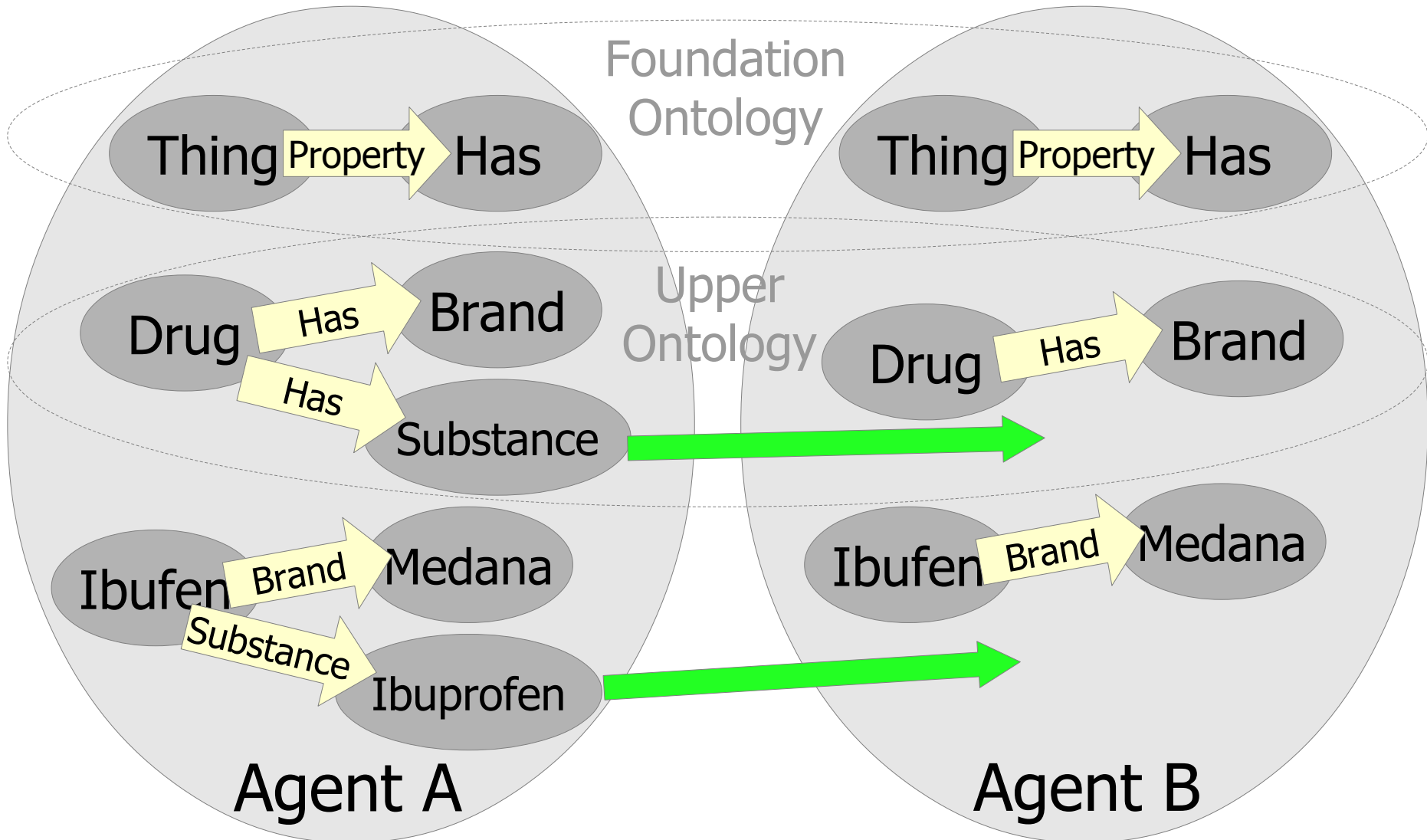


(Hooves AND Tail) AND
 ((White and Black) OR Brown)

=> Horse

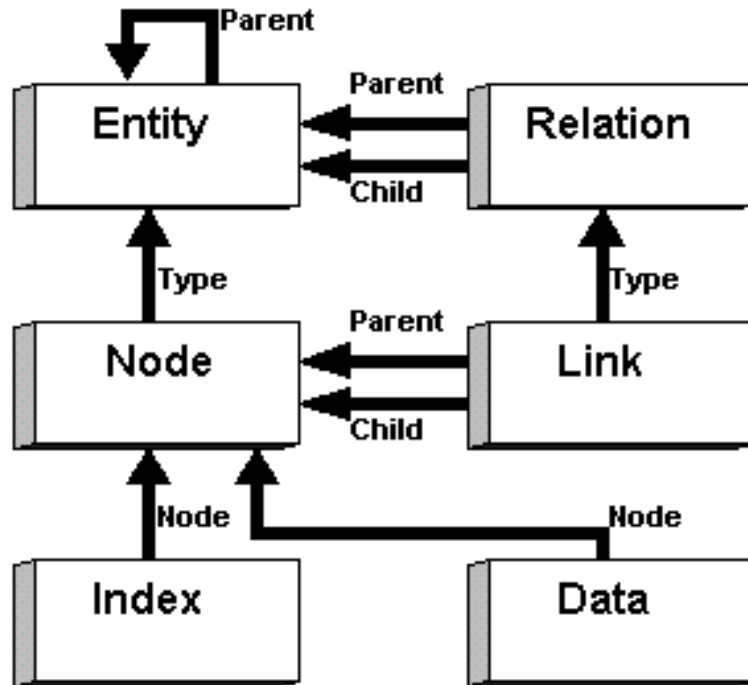


Foundation Ontologies for Distributed (Multi-Agent) Systems

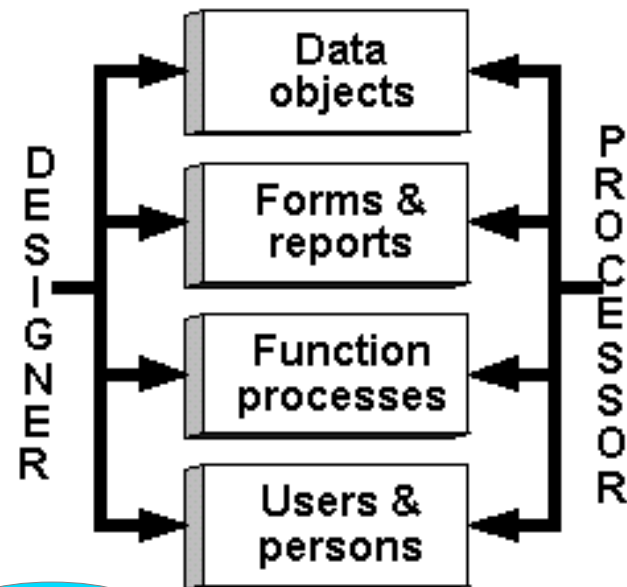


Foundation Ontologies - Applications

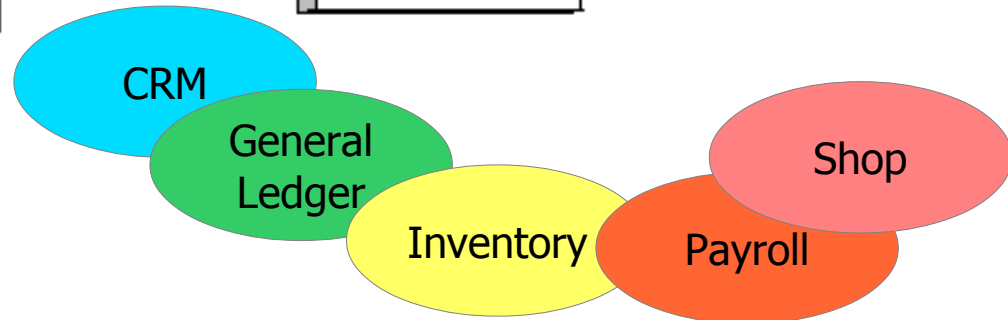
Database scheme view



User interface view

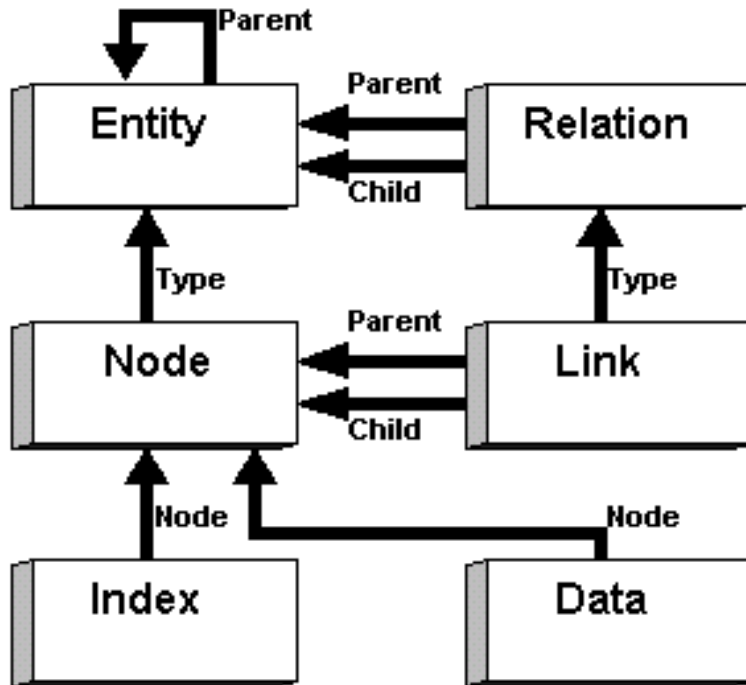


Data4: 1995

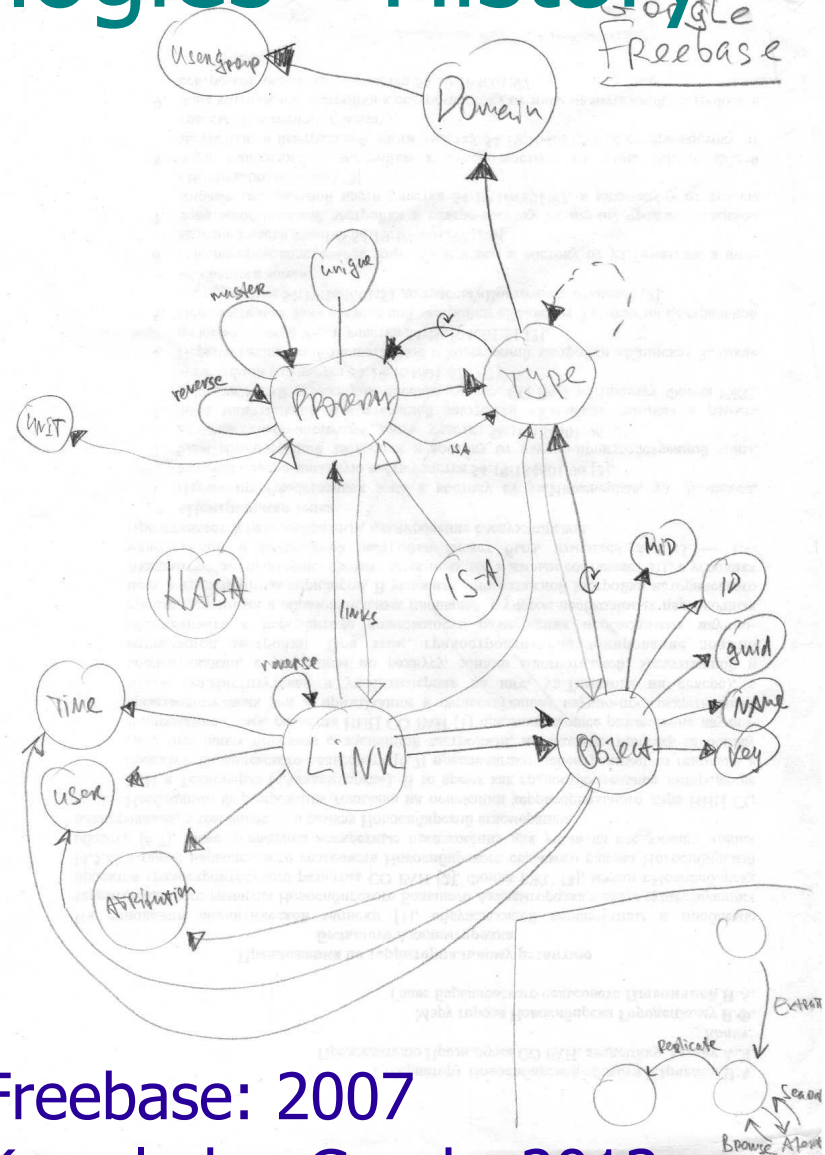


Foundation Ontologies - History

Database scheme view



Data4: 1995



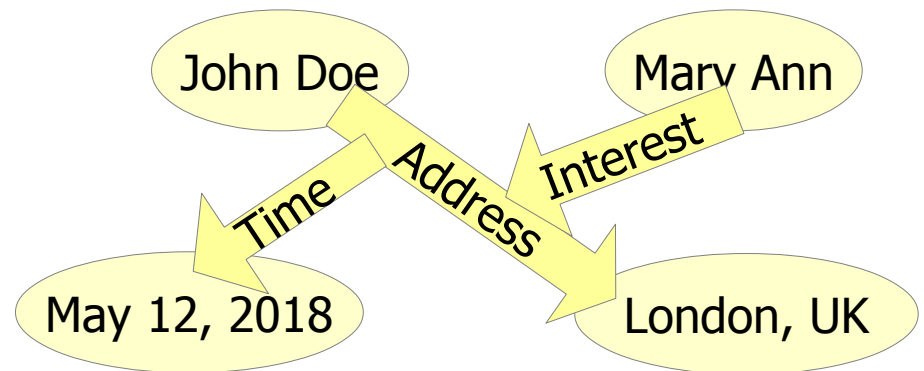
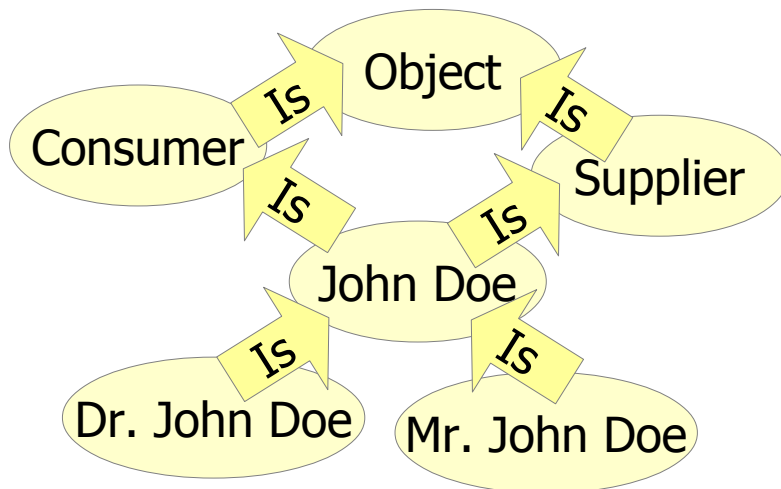
Freebase: 2007
Knowledge Graph: 2013

Lessons Learned:

1. Class is an Object

2. Object may be a Class

3. Link can be a Node



Semantic Modeling of Business Processes

UFO/URL: 1997-1999

The screenshot displays the UFO/URL software interface, which is used for semantic modeling of business processes. It features several windows and panels:

- Дерево классов (Class Hierarchy):** A tree view on the left showing a hierarchy of classes. The root is "Сущность(ENTITY)", which includes "Объект(OBJECT)". Under "Объект(OBJECT)", there are several sub-classes, including "Account type(ACCOUNT_UPDATE_TYPE)", "Account(ACCOUNT)", "Addresses(ADDRESS)", "Departments(DEPARTMENT)", "Document(DOCUMENT)", "Persons(PERSON)", "Record(RECORD)", and "Справочная информация(DICTIONARY)".
- Атрибуты (Attributes):** A table in the center showing attributes for the selected class. The table has columns for "Имя" (Name), "Текст" (Text), "Док" (Doc), "Ключ" (Key), "№ п/п" (No), "Об" (Ob), "Па" (Pa), "Тип" (Type), and "Область значений" (Value Area). The attributes listed are: NUMBER (Account code, unique, 0, Embedded, ->STRING), ACC_TYPE (Account type, no, 0, Embedded, ->STRING), DEBET (Debit, no, 0, Embedded, ->NUMBER), CREDIT (Credit, no, 0, Embedded, ->NUMBER), SALDO (Balance, no, 0, Embedded, ->NUMBER), and COLOR (Color, 0, EMBICALC, ->NULL).
- Атрибуты (Attributes):** A table on the right showing a list of accounts with columns for "Account code", "Account", "Debit", "Credit", "Balance", and "Color". The data rows are: 00 (11111,2222, 33333,44, 55555,7, RED), 01 (1000,1111, 0,00, 1000,1, GREEN), 02 (0,0000, 100,11, 0,0, RED), 03 (0,0000, 100,11, 0,0, RED), 04 (100,1000, 0,00, 100,1, GREEN), 05 (0,0000, 10,00, -10,0, RED), 10 (40,0000, 0,00, 40,0, GREEN), 12 (20,0000, 0,00, 0,0, GREEN), 41 (60,0000, 0,00, 0,0, GREEN), 50 (100,0000, 0,00, 100,0, GREEN), and 51 (1000,0000, 0,00, 0,0, GREEN).
- Методы (Methods):** A table below the attribute table showing methods for the selected class. The table has columns for "Имя" (Name), "Текст" (Text), "Тип" (Type), "Обращение" (Call), and "Таблица" (Table). The methods listed are: GET_ACCOUNT_COLOR (Paint account, SET, [...]), CONVERT_SALDO (Make balance, [...]), and UPDATE_DEBET (Update account balance, [...]).
- Paint account(GET_ACCOUNT_COLOR):** A logic flow diagram for the "GET_ACCOUNT_COLOR" method. It starts with "01. DO_RET = YELLOW". Then it goes to "02. IF ALL IF =". Inside this block, there is "IF DEBET > CREDIT" followed by "LET" and "01. DO_RET = GREEN". Then it goes to "03. IF ALL IF =". Inside this block, there is "IF DEBET < CREDIT" followed by "LET" and "01. DO_RET = RED".

Project: ProPro Group obtains the order from RTS Stock Exchange to develop Back-Office automation system.

Requirements: Tremendous amount of initial business rules and forms. Possibility to amend and extend the business rules and forms during the system life cycle.

Problem: The RTS analysts are not capable to supply the representative scope of initial business rules and forms timely enough so development can start fitting the given time frame

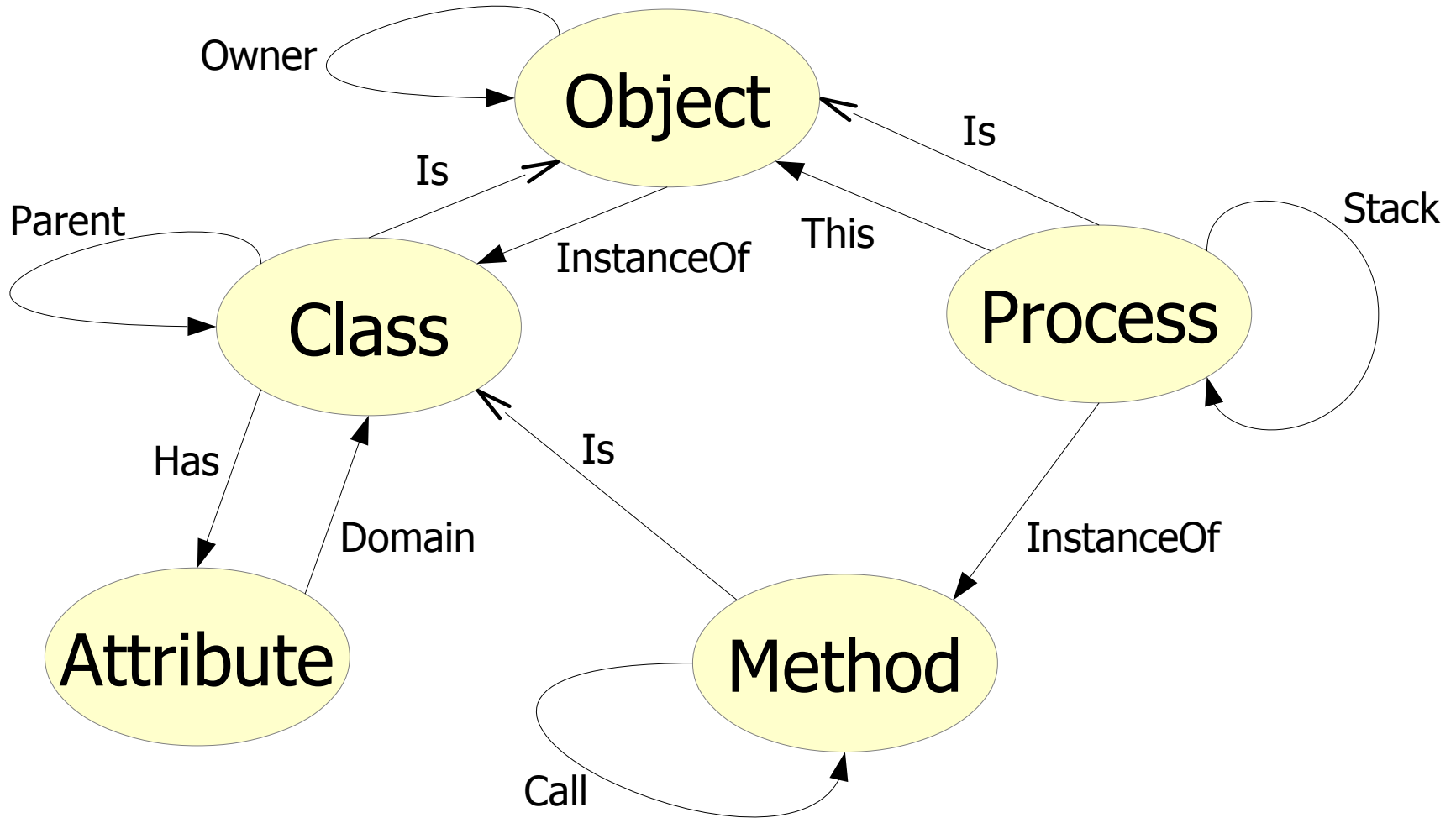
Decision: ProPro gives RTS analysts a language to encode the business rules and forms so the rules and forms can be quickly uploaded into the system when done. ProPro develops a system which can upload business rules and forms, play them in the course of system operation and provide an UI for the amendment and extension of rules and forms on the fly.

Solution: Object-Relational Language (**ORL**) effectively usable by analysts and software system at the same time. Universal Financial Object (**UFO**) three-tier (client, middleware and server) system using ORL for bootstrapping as well as intra-tier communications (instead of DCOM).

Semantic Modeling of Business Processes

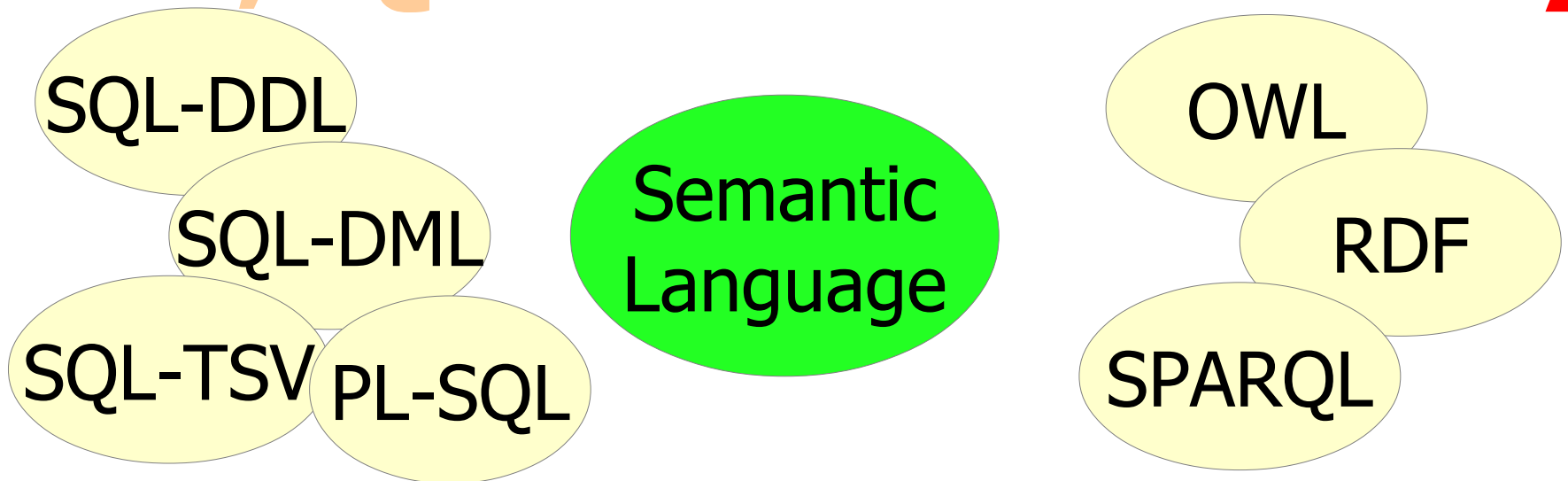
UFO/URL: 1997-1999

Foundation Ontology



Lesson Learned:

Can have **only one**,
language for **DDL, DML,**
PL, QL instead of **many**.



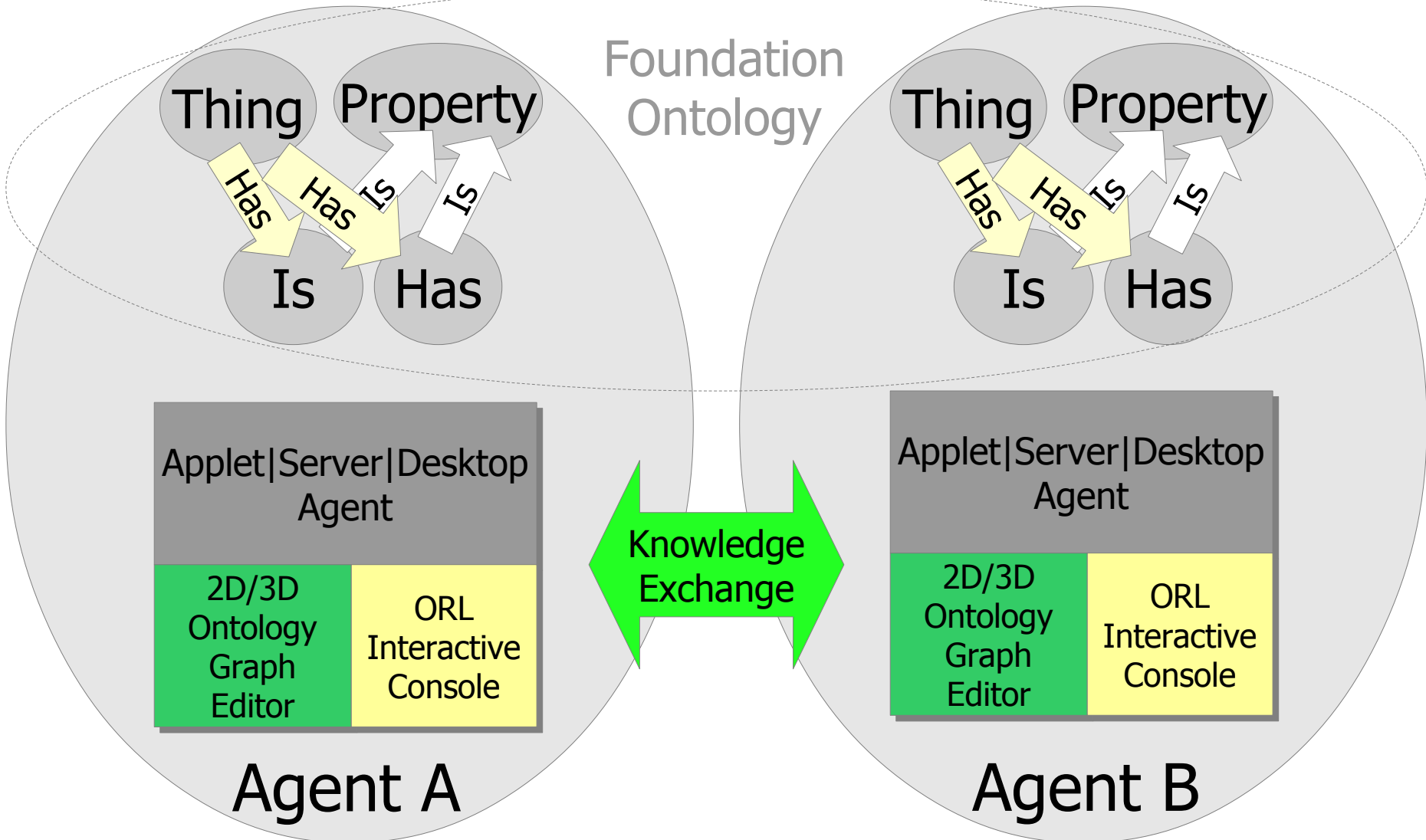
Semantic Modeling of Business Processes

Object Relational Language (ORL)

English	ORL
Here are the items A, B and C where A has properties X and Y while B and C are in relationship Z.	ITEM A,B,C;; A HAS (X), (Y);; B Z(C);;
In order to reach goal 1 one needs condition 2 and 3 to be held true while 2 can be true only if condition 4 happens.	CONDITION C2,C3,C4;; GOAL G1 REQUIRES (C2),(C3);; CONDITION(C2) REQUIRES (C4);;
Each morning need to perform this and that in order, having such and such done at once next.	PROCESS TIME "8:00"; REPEAT (DAILY); ORDER DO THIS, DO THAT;; FORK DO SUCH, DO SUCH;;;
What is that my stuff you mentioned yesterday or the day before?	STUFF(OWNER (ME), UPDATE (AUTHOR (YOU), {TIME "2013-03-22", TIME "2013-03-21"}).TELL;
What were the relationships between P and Q last year?	PROPERTY(OWNER (P), THING (Q), TIME "2012").TELL;
Let me know once they roll out next version of the product.	DO EMAIL TO "me@at.org";; WHEN PRODUCT(VENDOR (THEY)).VERSION CHANGE;;

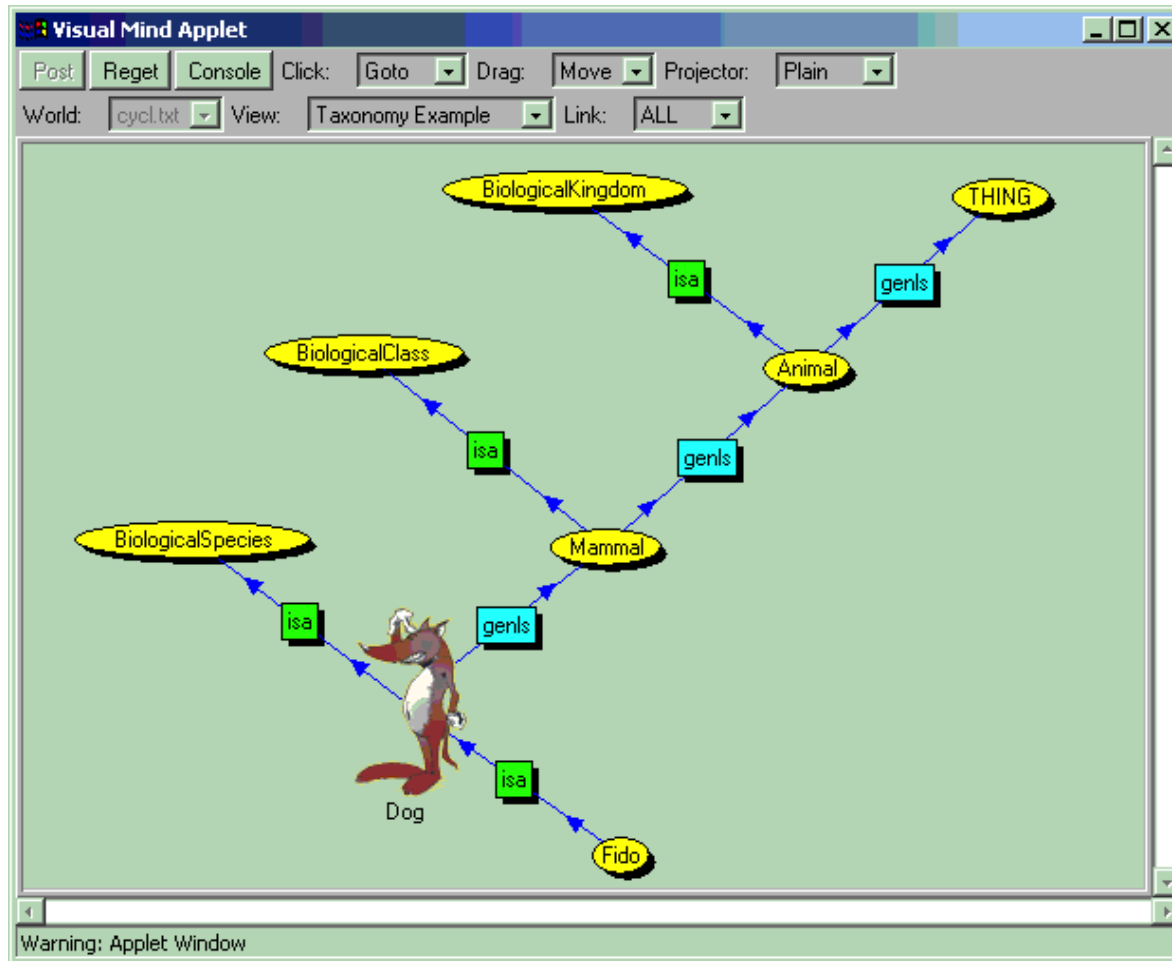
Distributed Knowledge Editor

Webstructor: 2001-2006



Webstructor: Distributed Knowledge Editor

Visual ontology editor - representing Cyc «micro-theory»

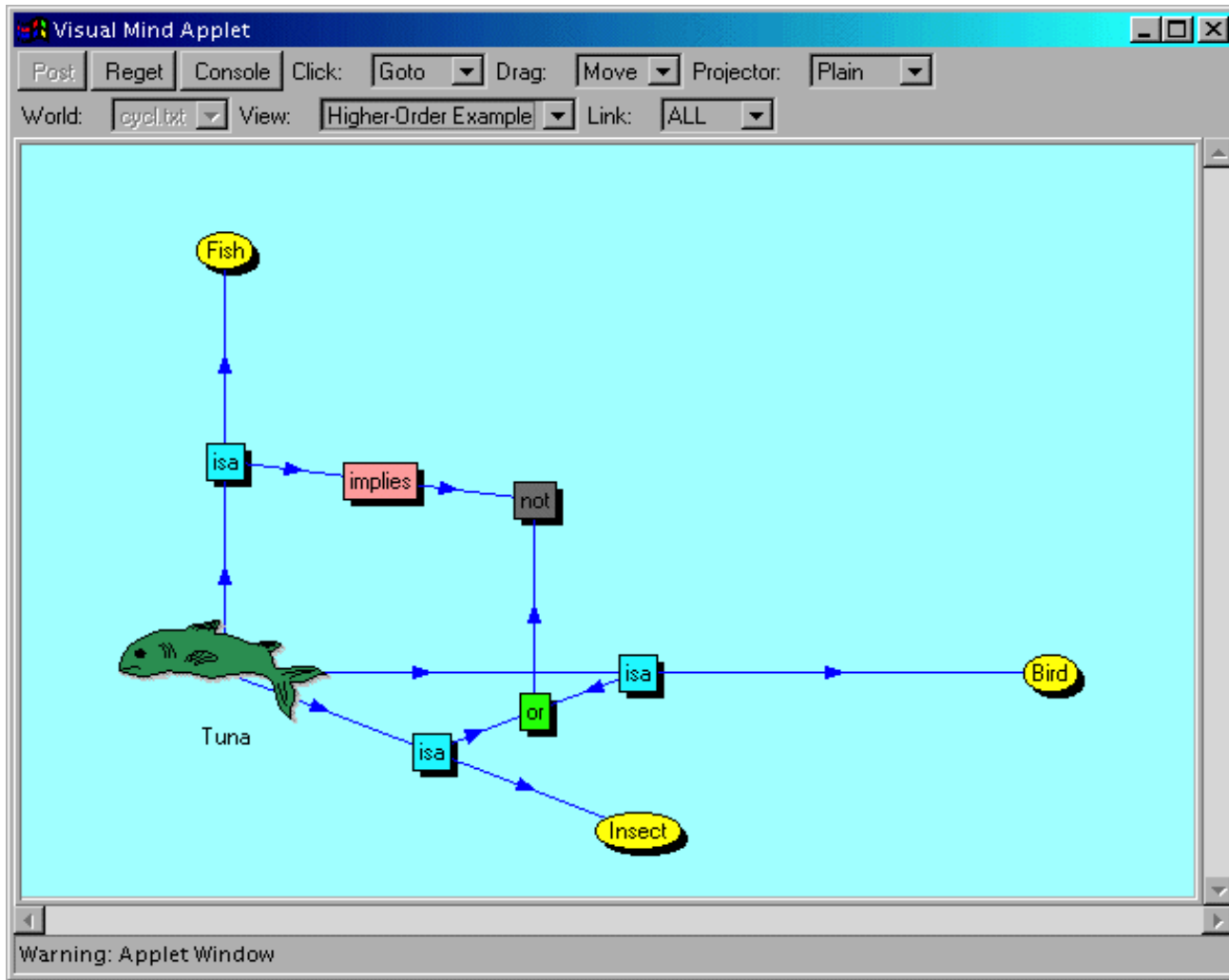


Fragment of «biological kingdom» of Cyc «upper ontology»

<http://webstructor.net/>

Webstructor: Distributed Knowledge Editor

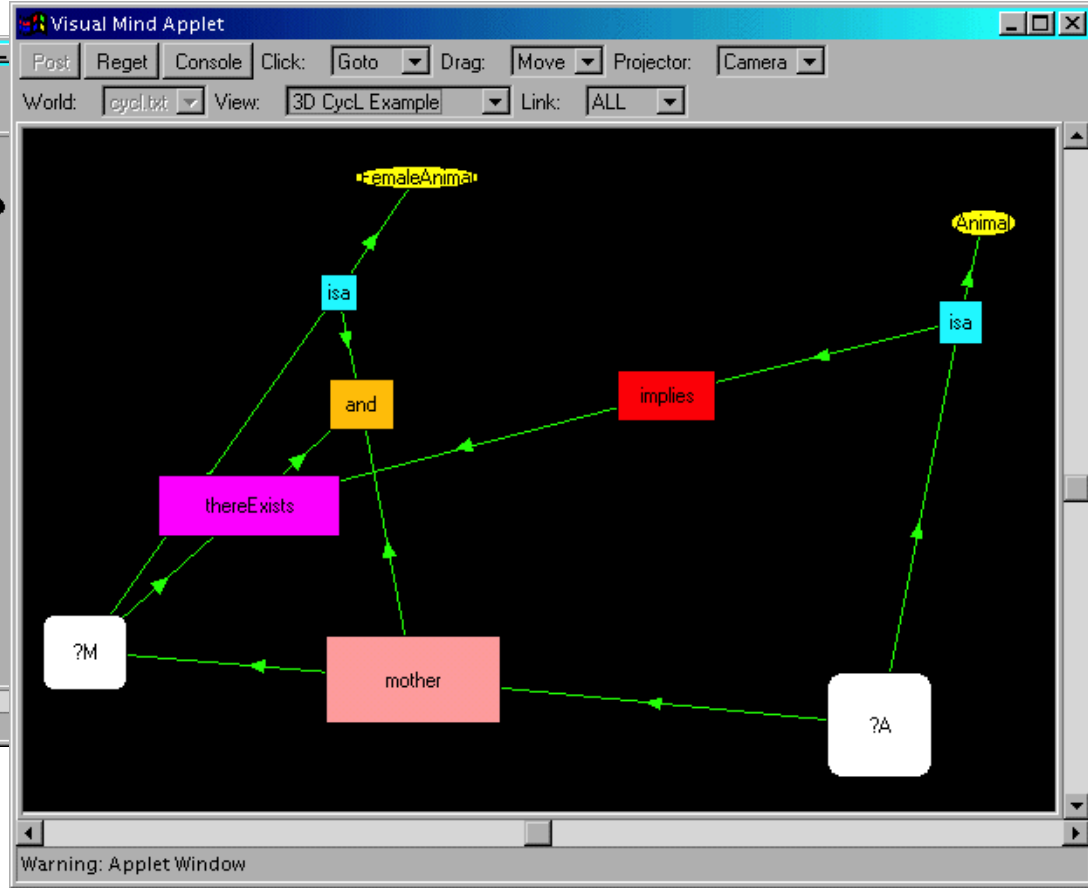
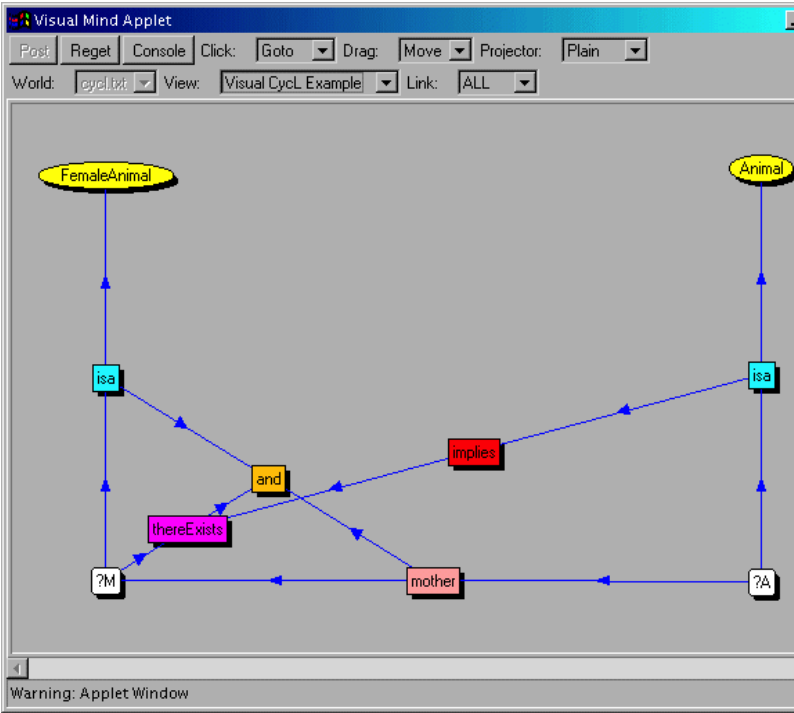
Visual ontology and predicate logic formula editor



Expression: «If tuna is a fish, that implies it is not an insect or a bird.»

Webstructor: Distributed Knowledge Editor

Visual 2D/3D editor of logical assertions (e.g. CycL)



(implies (isa ?A Animal) (thereExists ?M (and (mother ?A ?M) (isa ?M FemaleAnimal))))
= Mother of an animal is a female animal.

<http://webstructor.net/>

Webstructor: Distributed 2D/3D Editor

The screenshot displays the Webstructor interface with four distinct views:

- Top Left:** A hierarchical diagram titled "Visual Mind Applet" showing a structure of "Applet 1" through "Applet 6" and "Window App 2" through "Window App 3". Below these are "Web Server 1" through "Web Server 3", "Servlet 1" and "Servlet 2", "Server App 1" and "Server App 2", and "File 1" through "File 6".
- Top Right:** A "Web Resources" map showing connections between "Search Engines" (English and Russian), "Online translators", and "AI Groups" to various services like Google, Yahoo, Askleaves, etc.
- Bottom Left:** A 3D "Playground" view showing a virtual environment with planets (saturn, jup, earth, venus, mars), a sun, a rocket, and various animals (wolf, pig, mouse, fish, dolphin) and a person.
- Bottom Right:** A semantic network diagram with nodes for "FRUIT" (acorn, corn), "SIZE" (big, small, tiny), "ENVIRONMENT" (land, ocean), "ANIMAL" (wolf, pig, mouse, fish, dolphin), "EXTREMITY" (fin, leg), and "COLOUR" (gray, yellow, pink, green).

The interface includes a top menu bar with "Post", "Reget", "Console", "Click:", "Goto", "Drag:", "Move", and "Projector:" options. The bottom of the window features a standard Mac OS X dock with various application icons.

<http://webstructor.net/>

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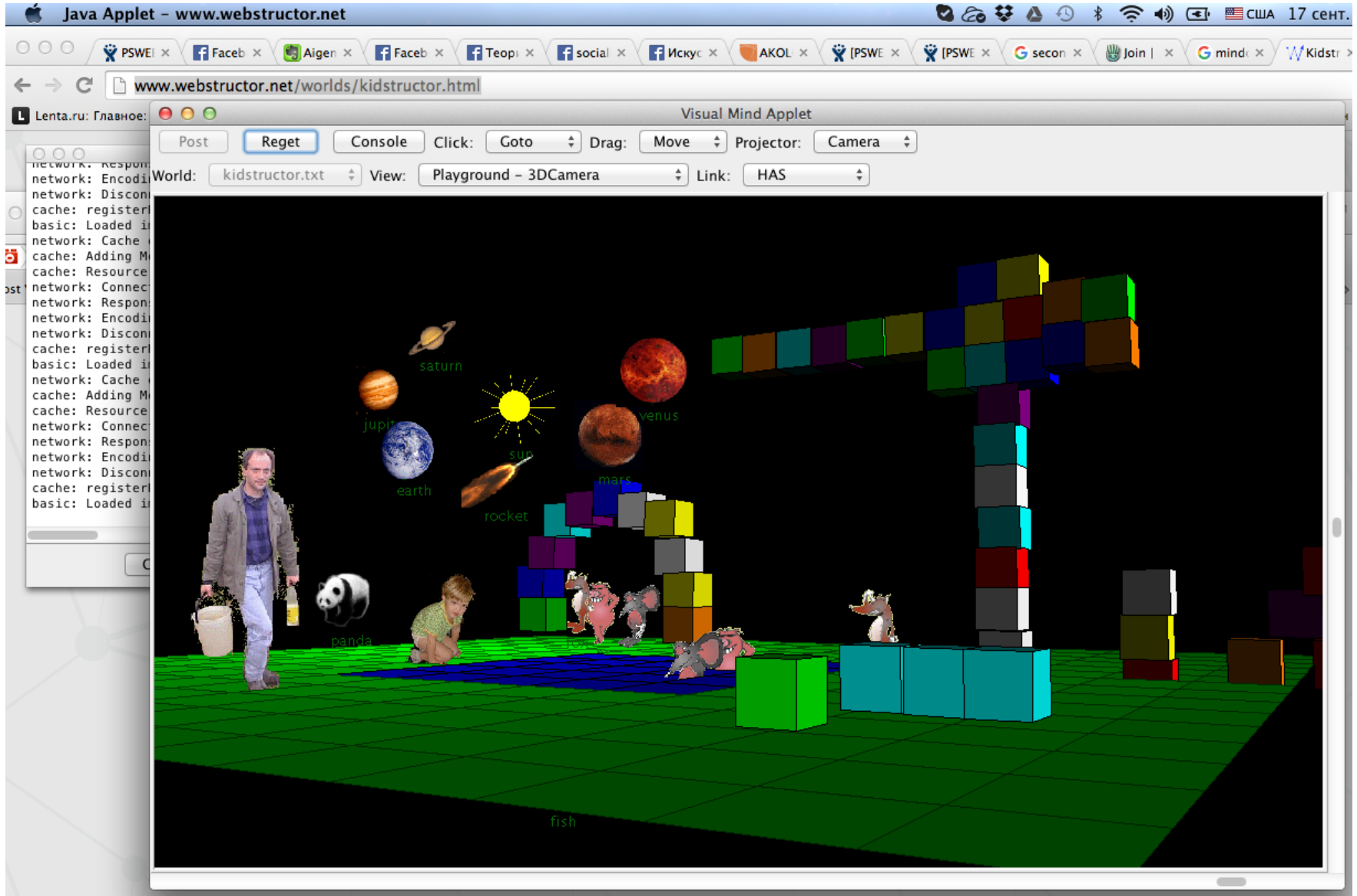
Webstructor: 2D Knowledge Editor Online

The screenshot displays the Webstructor online knowledge editor interface. The browser window title is "Java Applet - www.webstructor.net". The address bar shows "www.webstructor.net/worlds/animals.html". The interface includes a "Visual Mind Applet" control panel with buttons for "Post", "Reget", "Console", "Click:", "Goto", "Drag:", "Move", and "Projector:". The "World:" dropdown is set to "animals.txt", and the "View:" dropdown is set to "Categories, Instances and Properties".

The main area shows a hierarchical ontology diagram. The root node is "ANIMAL" (blue box). It has four children: "wolf" (with a wolf illustration), "pig" (with a pig illustration), "mouse" (with a mouse illustration), and "fish" (with a fish illustration). "ANIMAL" also has a child "dolphin" (with a dolphin illustration). "ANIMAL" is connected to "FRUIT" (yellow box), "SIZE" (white box), "ENVIRONMENT" (green box), and "COLOUR" (gray box). "FRUIT" has children "acorn" and "corn" (both yellow boxes). "SIZE" has children "big", "small", and "tiny" (all white boxes). "ENVIRONMENT" has children "land" and "ocean" (both green boxes). "COLOUR" has children "gray", "yellow", "pink", and "green" (all gray boxes). "EXTREMITY" (pink box) has children "fin" and "leg" (both pink boxes).

<http://webstructor.net/>

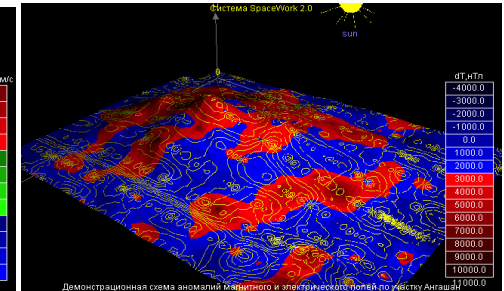
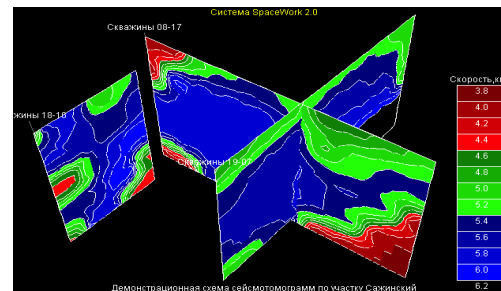
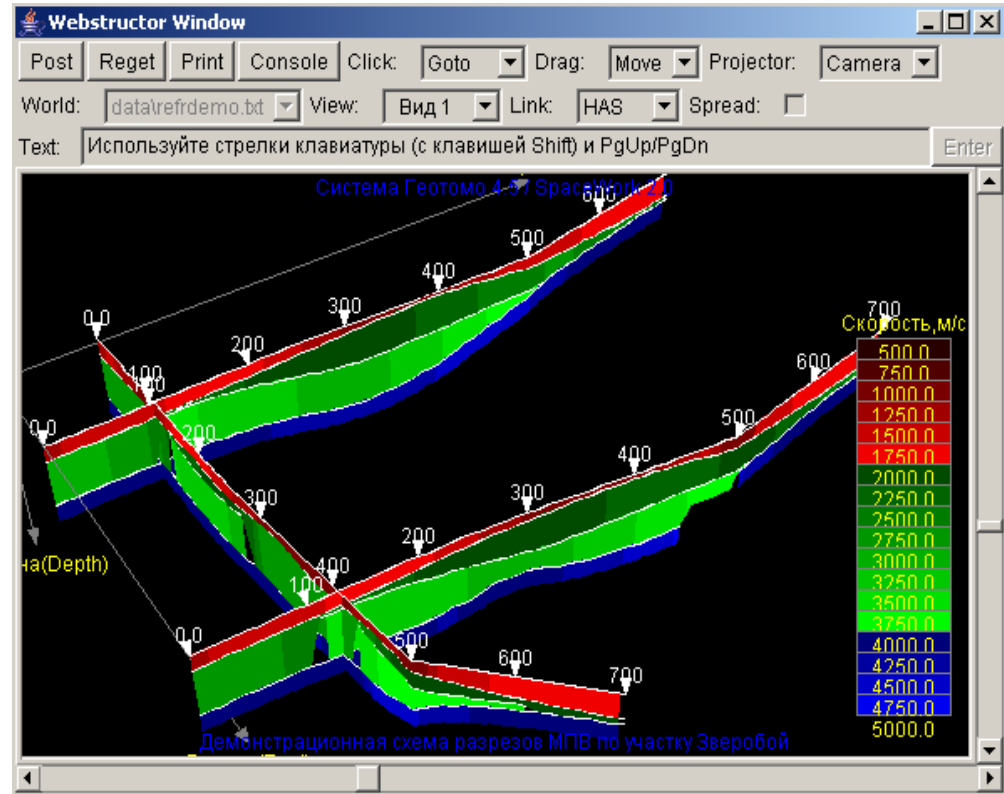
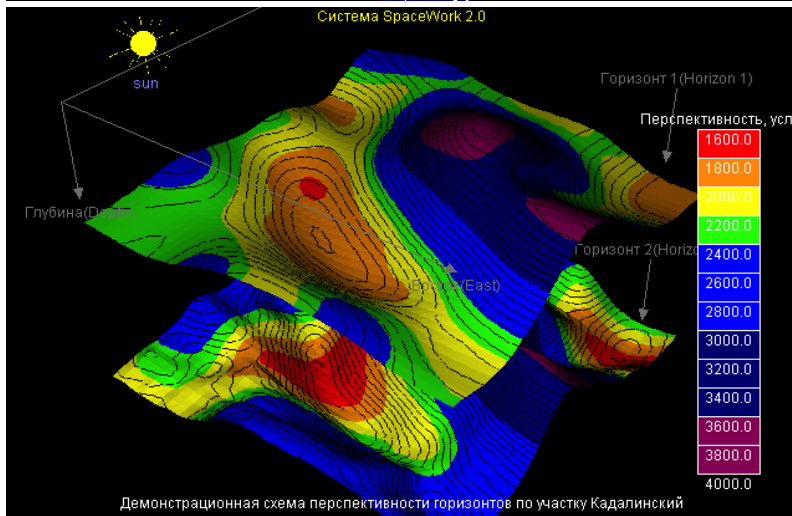
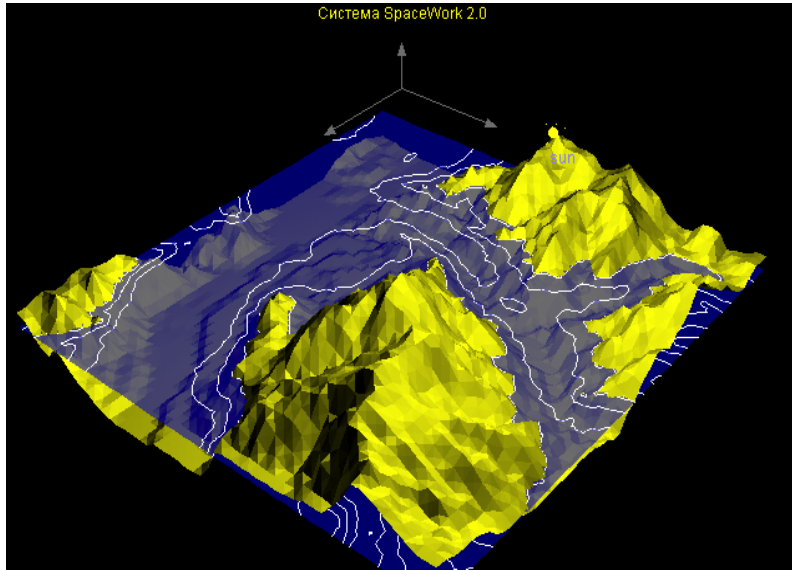
Webstructor: 3D Hyper-World Editor Online



<http://webstructor.net/>

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Webstructor: 4D Complex Data Viewer

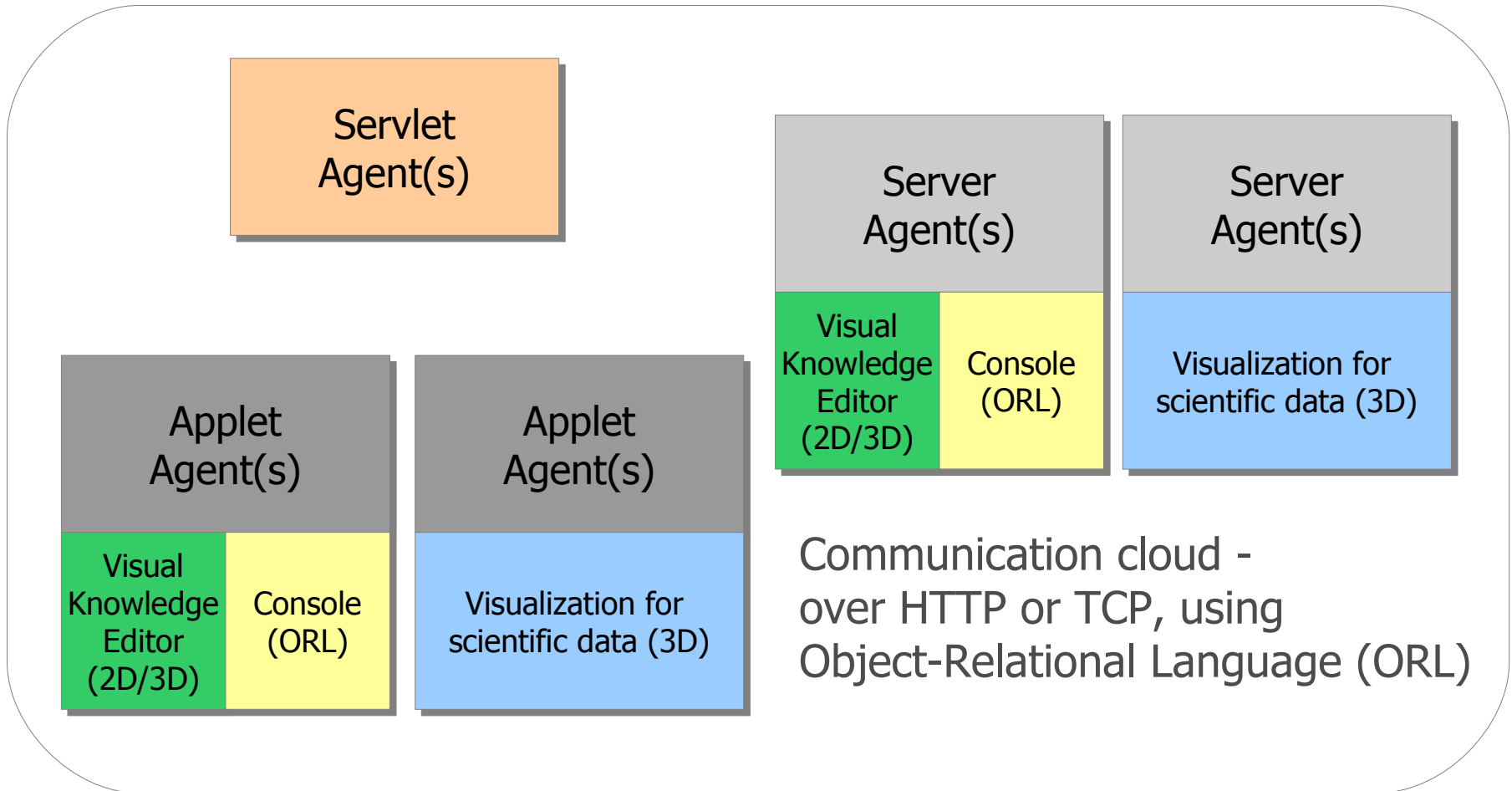


<http://webstructor.net/geotomo/>

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Webstructor: Architecture

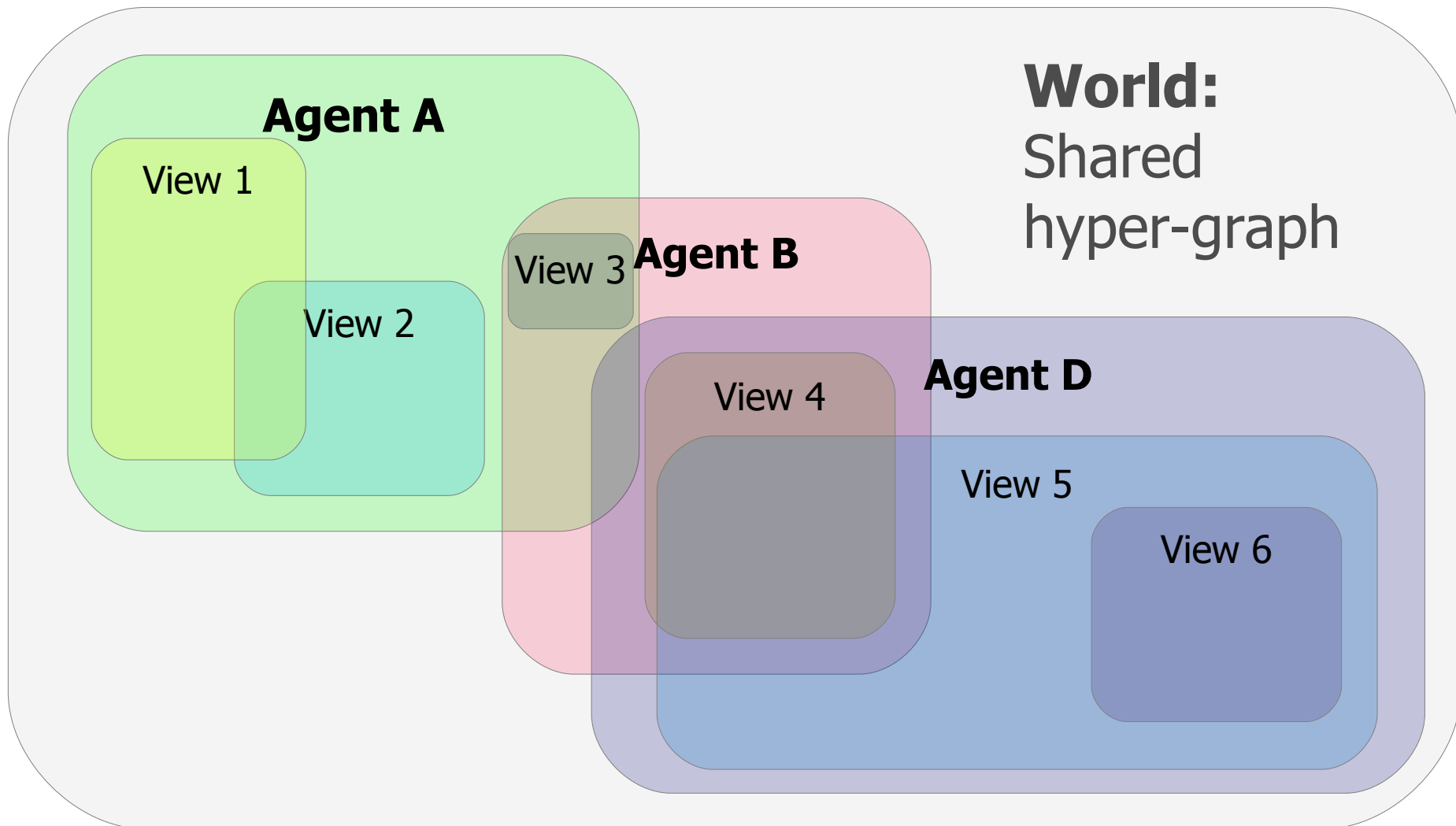
Distributed multi-agent (peer-to-peer) architecture



<http://webstructor.net/>

Webstructor: "3D-Net" - Worlds and Views

Webstructor: Sharing "world" data visible in "views"



<http://webstructor.net/>

Lessons Learned:

1. 2D graphs are **fun** but **not always** practical
2. 3D graphs are even **more fun** but even **more less practical**
3. Distributed removal of knowledge (and its truth assessment) needs **account for evidence and social reference**

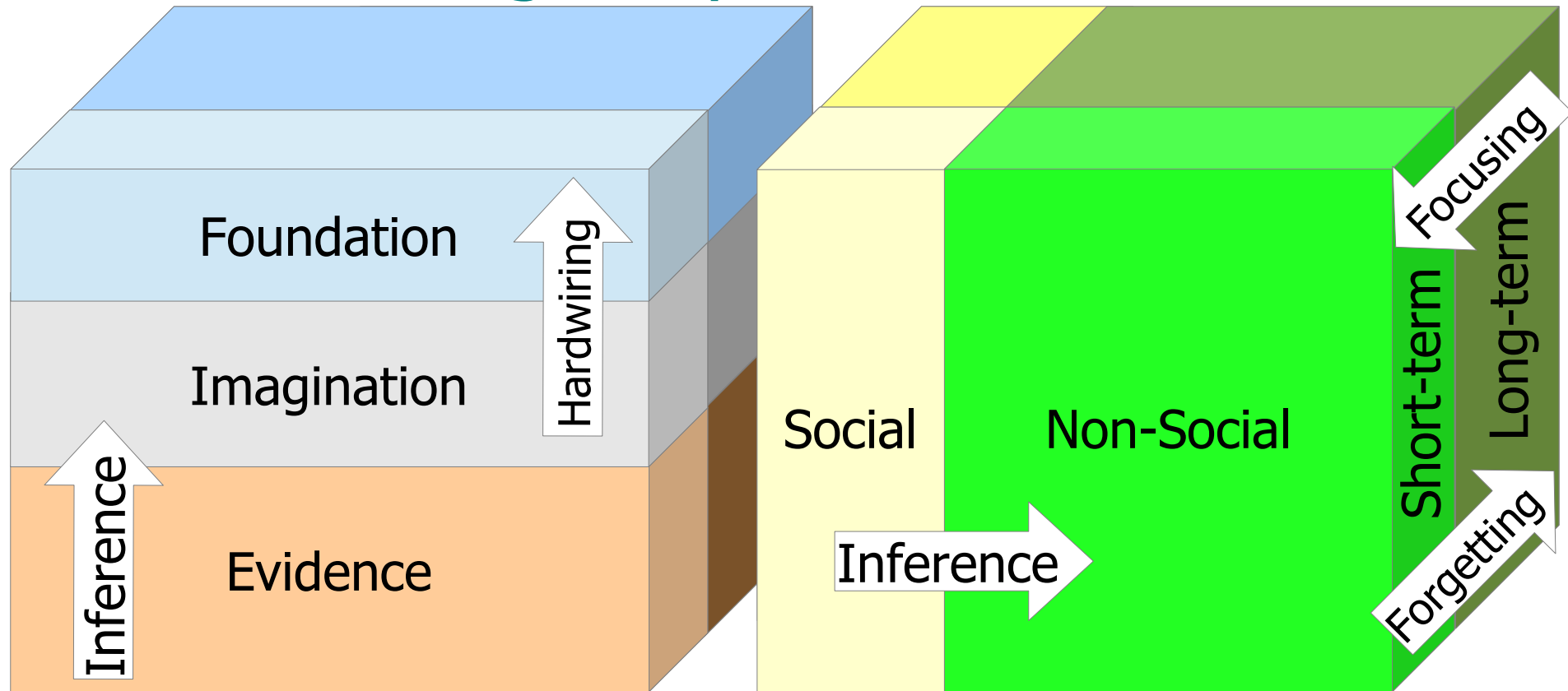
Aigents® Language for Distributed Personal AI Agents



Monitoring
content and
social dynamics
in online
networks

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akolonin@aigents.com

Social-Evidence based Knowledge Representation Model



Top layer - “foundation graph” of basic knowledge, which is necessary for social system to be shared by all of its members in order to communicate.
Middle layer - “imagination graph” keeping “inferred” knowledge.
Bottom layer - “evidence graph” containing everyday life-time experiences.

Using "Semantic Language" for Knowledge Transfer between Software Agents and Human Users

Lisp, AIML/XML,
RDF/OWL/XML + SPARQL,
Turtle, JSON-LD

Too complex and unfriendly?

"Interlingua"
"Controlled language"
"Semantic language"

Just right!

Lojban,
Esperanto,
English

Too complex and ambiguous?

Artificial
Agent

Human
User

Agent Language (AL) for Home Automation and Internet-of-Things (IoT) – multilingual example

A: My is appliance, agent, thermostat, device.

A: My has shape, color, voltage.

A: My has location.

A: My shape rectangular, color white, voltage 220, location kitchen.

A: My has temperature, humidity, CO2, feeling.

A: Temperature, humidity, CO2 is number.

A: Feeling is good or bad.

H: What your feeling, temperature, humidity?

A: My feeling good, temperature 20, humidity 72.

A: Моя это прибор, агент, термостат, устройство.

A: Моя иметь форма, цвет, питание.

A: Моя иметь место.

A: Моя форма прямоугольный, цвет белый, питание 220, место кухня.

A: Моя иметь температура, влажность, CO2, самочувствие.

A: Температура, влажность, CO2 это число.

A: Самочувствие это хорошо или плохо.

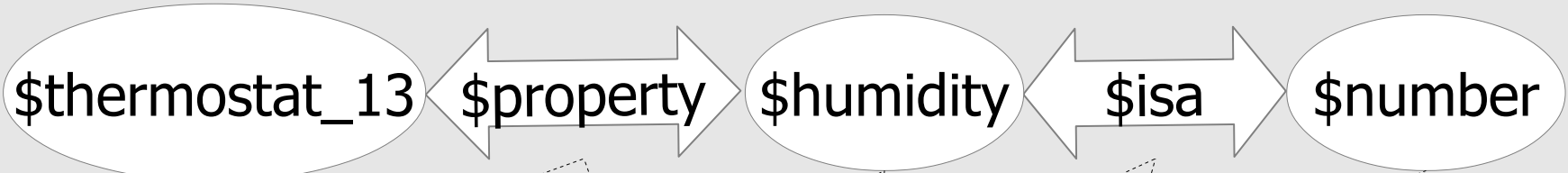
H: Как твоя самочувствие, температура, влажность?

A: Моя самочувствие хорошо, температура 20, влажность 72.



Agent Language (AL) as a “Labeled Turtle”

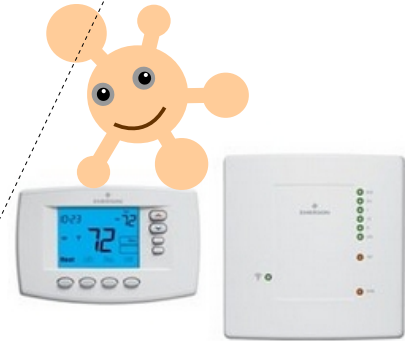
Common domain-specific ontology for “controlled interlingua”



МОЯ
ИМЕТЬ
ВЛАЖНОСТЬ
ЭТО
ЧИСЛО
Russian name space

my
has
humidity
is
number
English name space

\$name



Agent Language (AL) as a Graph Manipulation

Interrogation:

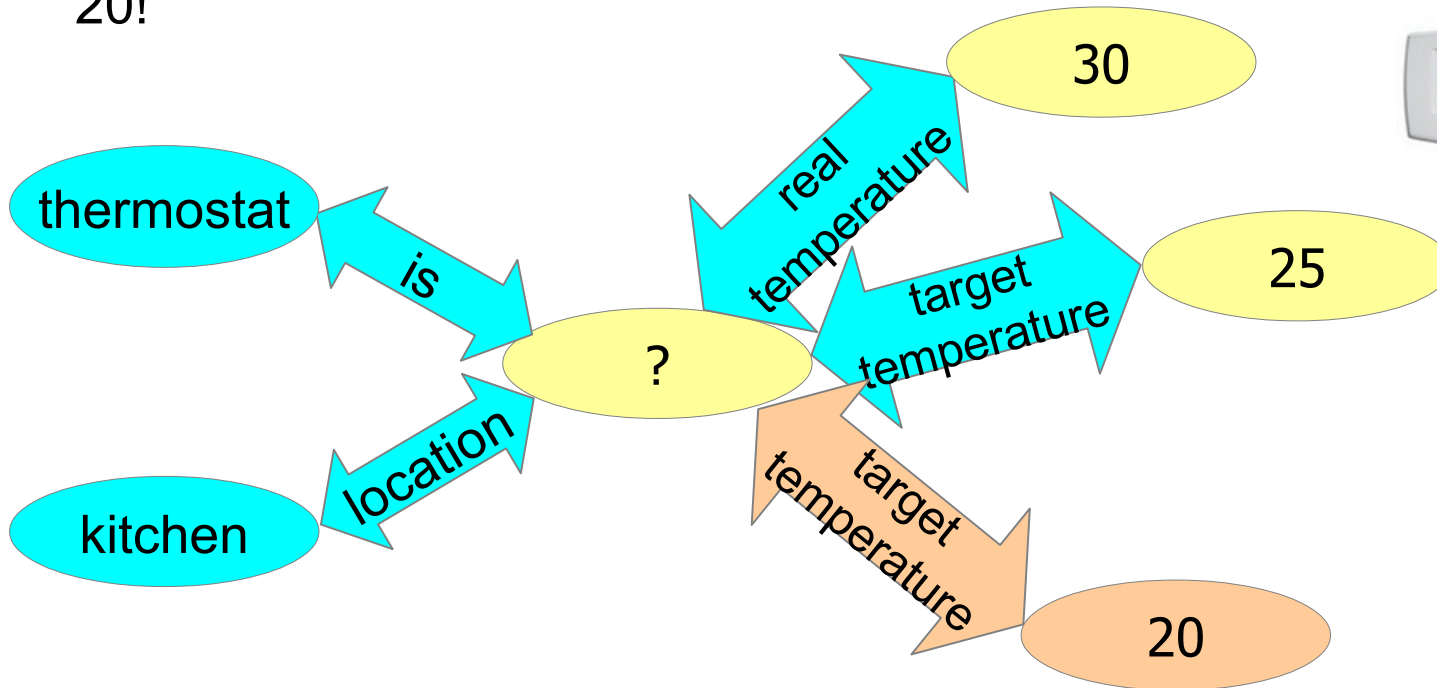
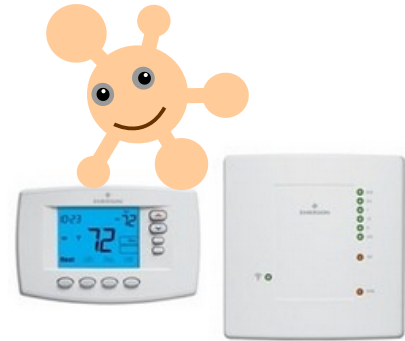
What is thermostat, location kitchen real temperature, target temperature?

Declaration:

Is thermostat, location kitchen real temperature 30, target temperature 25.

Direction:

Is thermostat, location kitchen target temperature 20!



Agent Language - EBNF

<message> := (<statement> | <acknowledgement>)^{*}
<acknowledgement> := ('ok' | ('true' | 'yes' | <number>) | ('no' | 'false' | 0)) '!'
<statement> := <interrogation> | <confirmation> | <declaration> | <direction>
<interrogation> := 'what' ? <expression> '?' *(* "open" incomplete graph *)*
<confirmation> := 'if' ? <expression-set> '?' *(* "closed" complete graph *)*
<declaration> := (<expression-set>) '!' *(* "closed" complete graph *)*
<direction> := 'do' ? <expression-set> '!' *(* "closed" complete graph *)*
<expression> := <term> (' ' <term>)^{*} *(* separated by spaces *)*
<expression-set> := <all-set> | <any-set> | <seq-set> *(* different kinds of sets *)*
<term> := <negation>? (<anonymous>? | <self> | <peer> | <id> | <name> | <value> | <qualifier>)
<qualifier> := <expression> | <expression-set>
<any-set> := <or-list> | ('{' <or-list> '}')
<all-set> := <and-list> | ('(' <and-list> ')')
<seq-set> := <next-list> | ('[' <next-list> ']')
<or-list> := <expression> ((',' | 'or') <expression>)^{*}
<and-list> := <expression> ((',' | 'and') <expression>)^{*}
<then-list> := <expression> ((',' | 'next') <expression>)^{*}
<negation> := 'not' | 'no' | '~'
<anonymous> := ('there' ('is'|'are')) | 'any' | 'anything' ?
<self> := 'my'|'i'|'we'|'our'
<peer> := 'your'|'you'
<value> := <number> | <date> | <time> | <string>

That is all!
There rest is done by means of domain-specific ontology and providing national-specific name space

Agent Language - comparisons

English

What is your feeling?
If your feeling is good?
Your feeling is good.
Have your feeling good!

Agent Language

Your feeling?
Your feeling good?
Your feeling good.
Your feeling good!

Russian (with tonal modulation)

Твое ощущение? (rising tone)
Твое ощущение хорошее? (rising tone)
Твое ощущение хорошее. (neutral tone)
Твое ощущение хорошее! (lowering tone)

Agent Language - written

I (can (eat, sleep), want (dance, sing)).
I {can (eat, sleep), want (dance, sing)}.
I (can {eat, sleep}, want {dance, sing}).
You [eat (rice, meat), drink {tea, beer}]!

Agent Language - spoken

I can eat and sleep and want dance and sing.
I can eat and sleep or want dance and sing.
I can eat or sleep and want dance or sing.
You eat rice and meat next drink tea or beer!

Agent Language

A C (D,E).
A (C D, F G).
A (C (D,E), F (G,H)).
(A,B) C D.
(A,B) (C (D,E), F (G,H)).

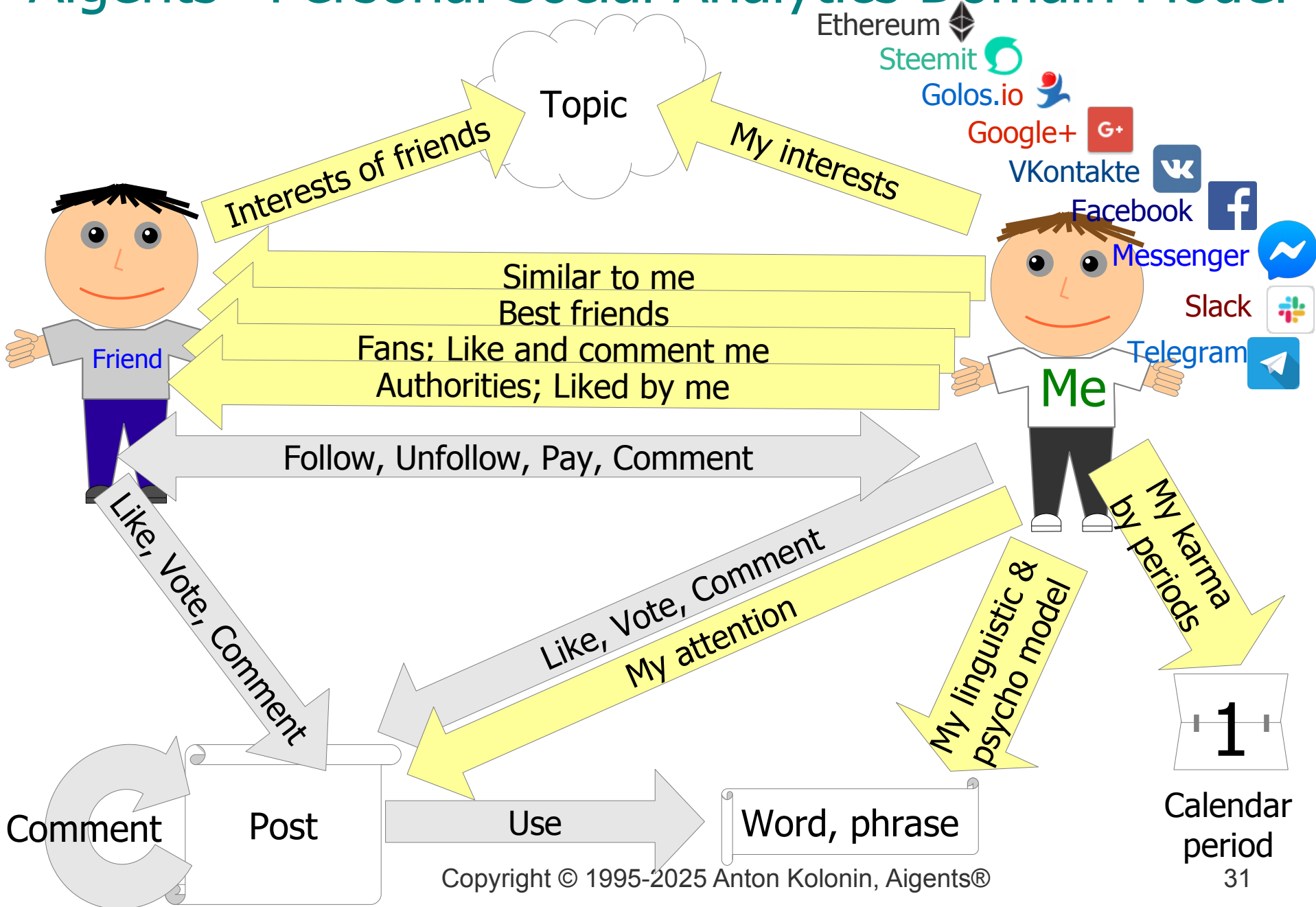
Term logic

A C D. A C E.
A C D. A F G.
A C D. A C E. A F G. A F H.
A C D. B C D.
A C D. A C E. B C D. B C E. A F G. A F H. B F G. B F H.

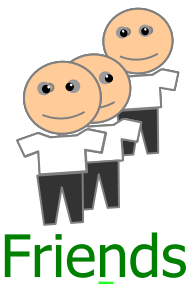
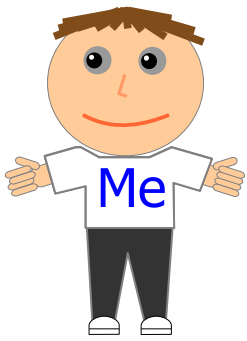
Turtle

A C D,E.
A C D; F G.
A C D,E; F G,H.

Aigents® Personal Social Analytics Domain Model



Case 1: Collaborative News Filtering: Monitoring web pages and extracting textual information with account to Personal and Social relevances

A screenshot of a web browser displaying the Aigents website. The address bar shows 'https://aigents.com'. The navigation bar includes 'Aigents', 'Topics', 'Sites', 'News' (with a '6' icon), 'Friends', 'Graph', and 'Chat'. There are 'Login & Registration' links and social media icons for Google+, Facebook, and Twitter. A search bar contains the text 'trump'. Below the search bar, a list of news articles is displayed, each with a thumbnail image, a title, and a URL. The articles are categorized by date: 'today', 'yesterday', '2017-09-14', and '2017-09-10'. A green arrow points from the 'Friends' label to the search bar, and another green arrow points from the 'Friends' label to the first article's title. A blue arrow points from the 'Me' character to the search bar.

clapper was one of four top security and intelligence officials who put their names behind a january 6 report that said russian president vladimir put behind a complex effort of hacking and misinformation to influence the 2016 election in trump's favor
<http://www.digitaljournal.com/news/world/hollywood-stars-ex-spies-launch-russia-investigation-campaign/article/502876>

today
sections business markets world politics tech commentary breakingviews money life pictures reuters tv discover thomson reuters financial go solutions legal reuters news agency risk management solutions tax & accounting blog: answers on innovation @ thomson reuters directory of contact support featured shock tactics the garage science behind tasers immigration policy trump administration red tape tangles up visas for foreigners
<http://www.reuters.com/theWire>

today
the more intense scrutiny comes after president donald trump called for a review of the controversial program
<http://www.reuters.com/video/2017/09/20/red-tape-ties-up-h-1b-visas-for-skilled?videoId=372572112&videoChannel=1>

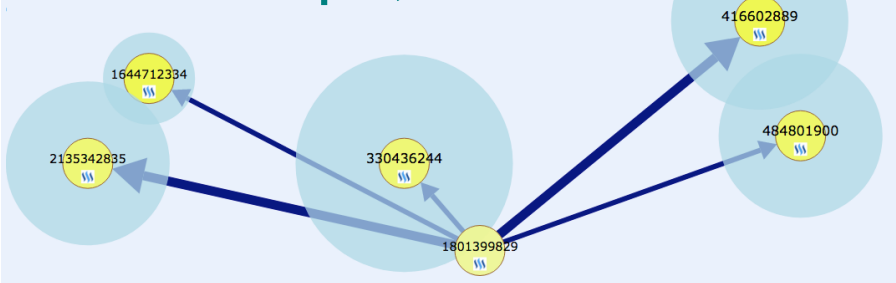
yesterday
and is examining any financial entanglement between russia and president trump his associates
<http://www.nytimes.com/>

2017-09-14
president trump came under sharp attack on thursday for appearing to set aside a border wall fight while reaching a deal on daca immigrants
<http://www.nytimes.com/>

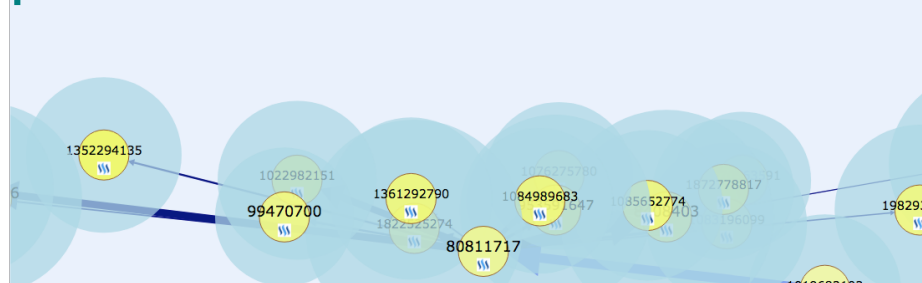
2017-09-10
lawrence kravos on trump's outi

Copyright 2017 Anton Kolonin, Aigents Group

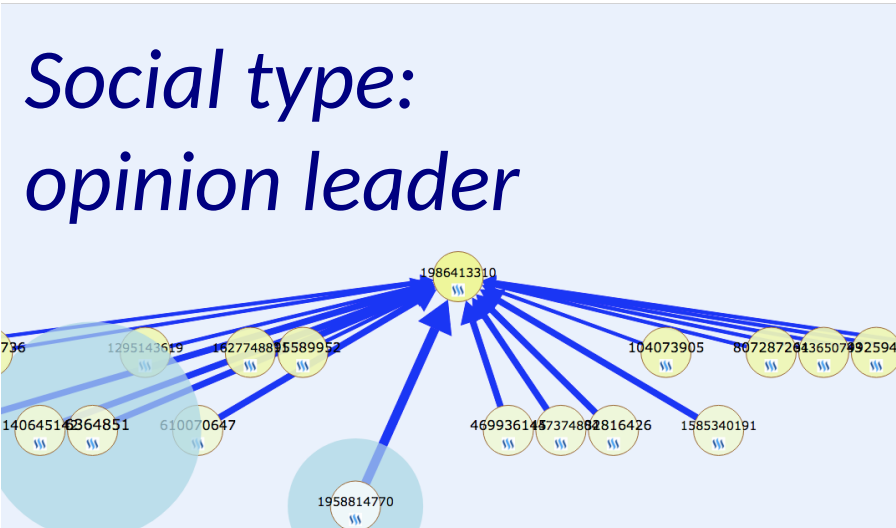
Case 2: Helping users to understand themselves better and perform more efficiently online – using their tracks in social networks and online resources, capture their interests, relationships, communication patterns and social structures.



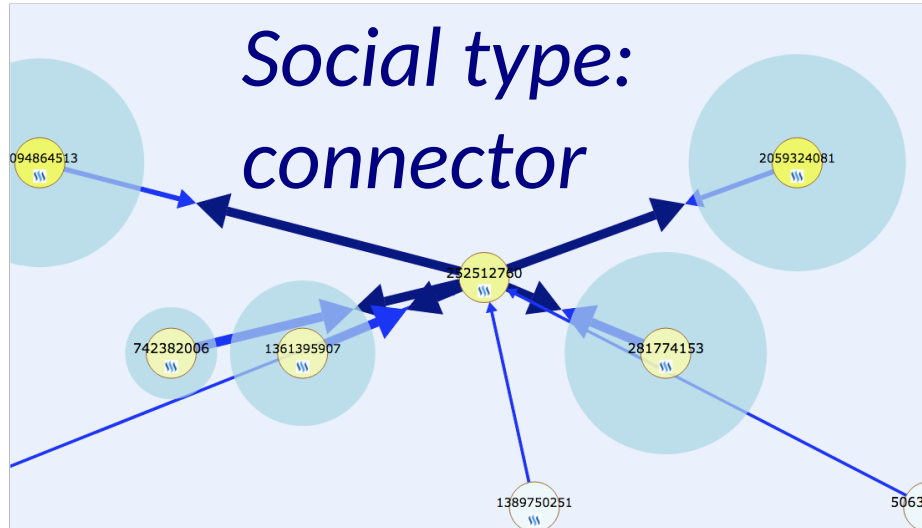
*Social type:
follower*



*Social type:
peer*

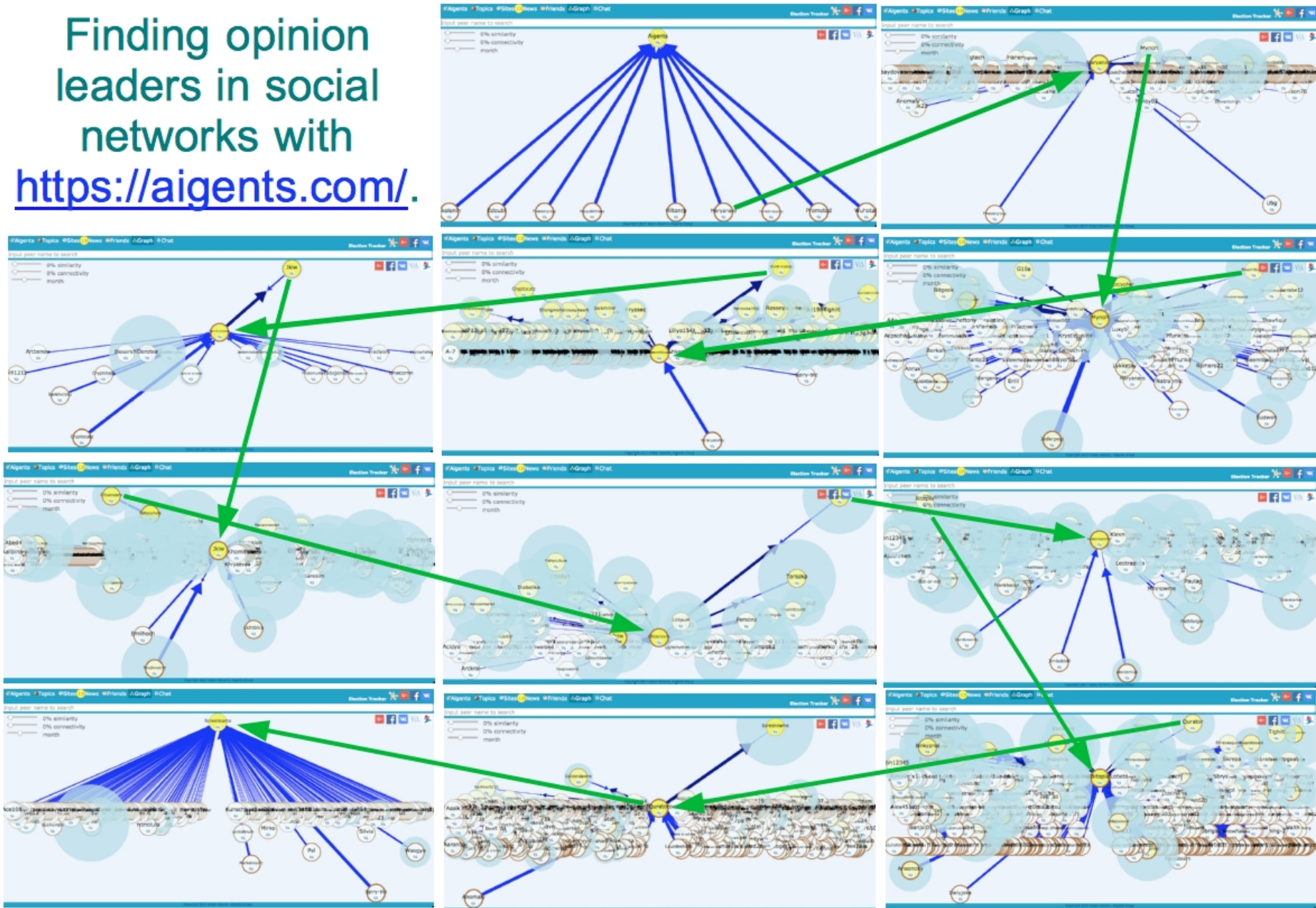


*Social type:
opinion leader*

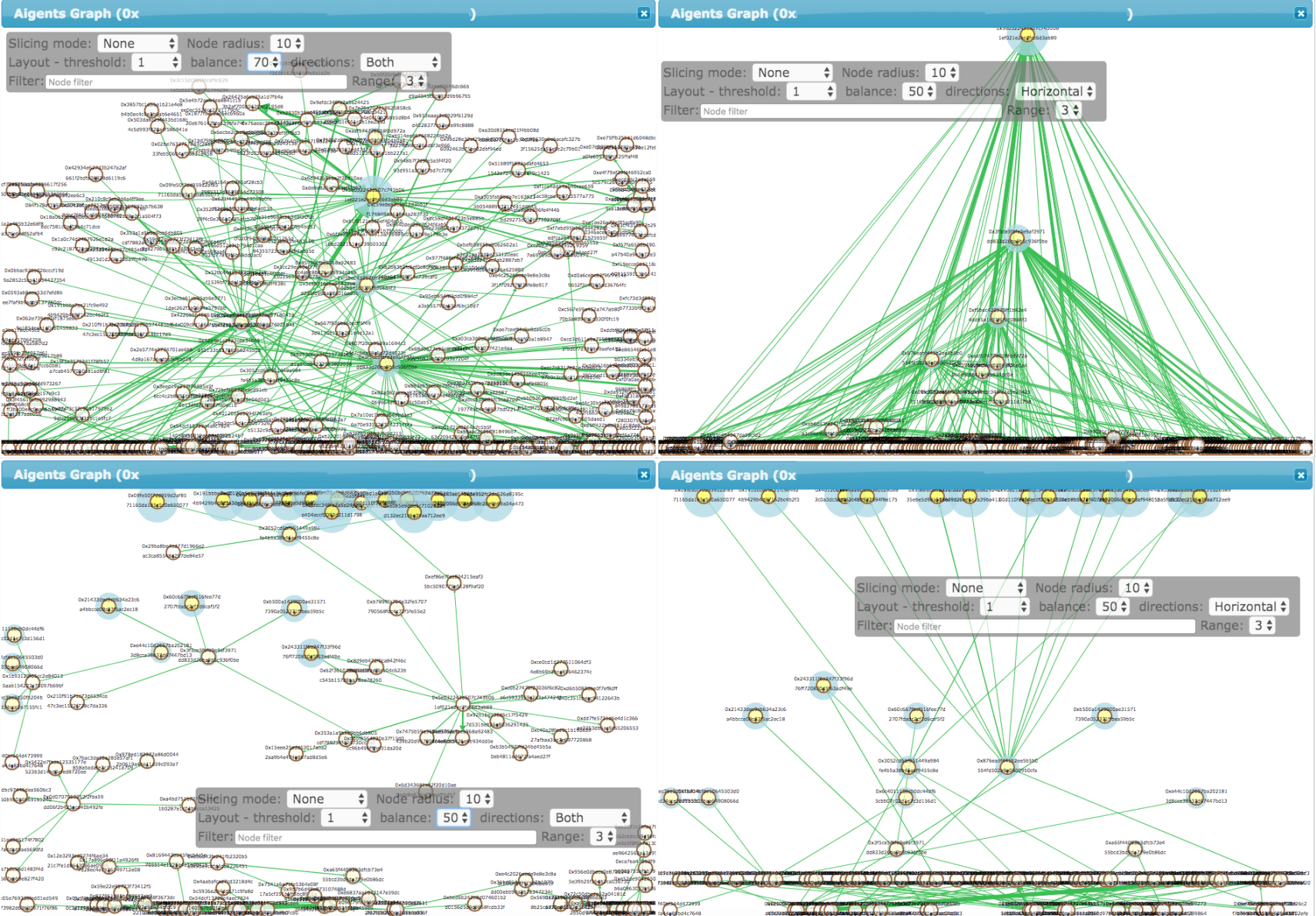


*Social type:
connector*

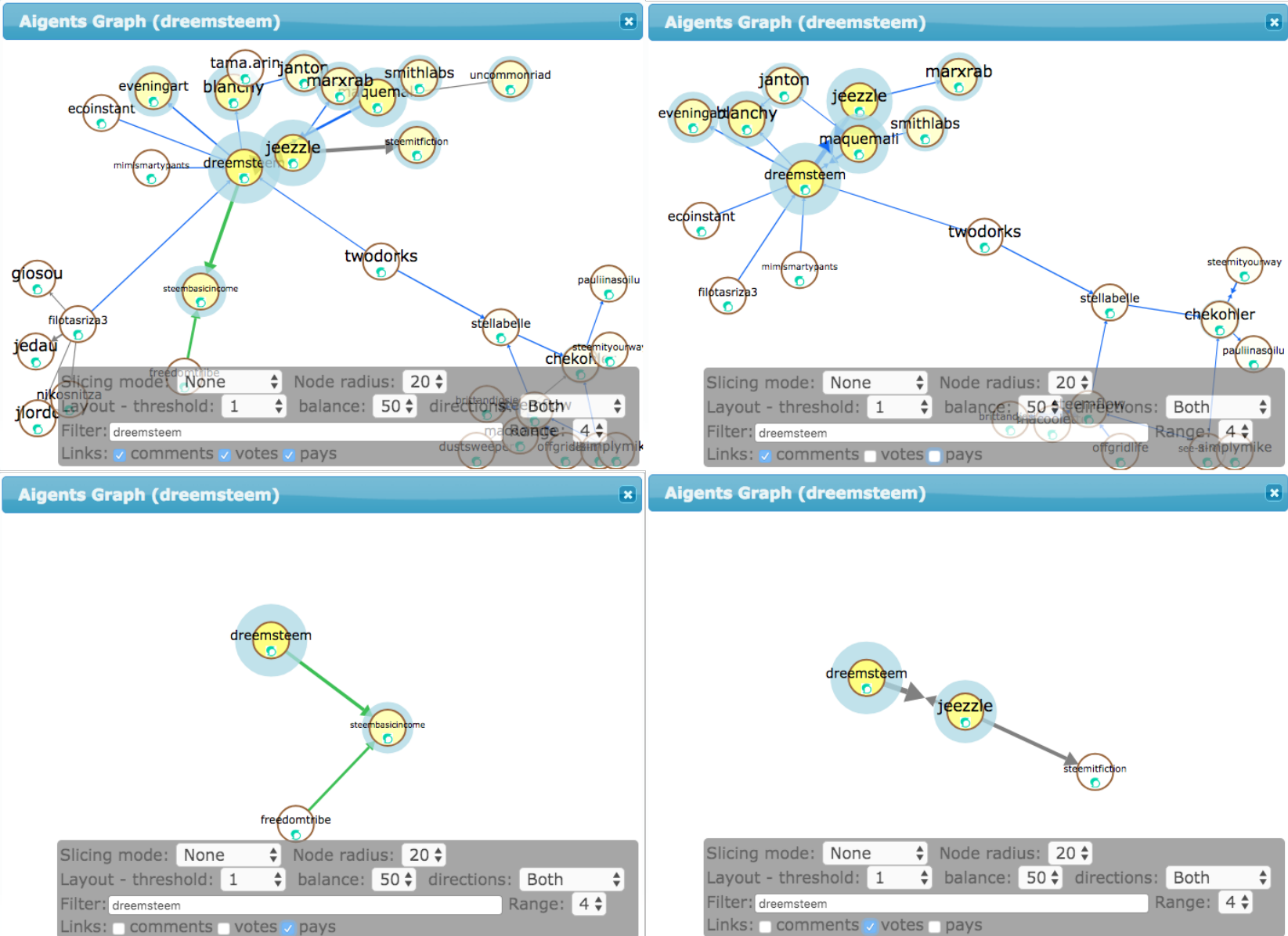
Case 3: Finding opinion leaders in social networks with <https://aigents.com/>.



Aigents®: Ethereum cash flow graph study



Aigents®: Steemit social network graph study



Lessons Learned:

1. People and users don't like to learn new languages (including controlled, pidgin and graphical)
2. They like to use their own language or usable GUI-s
3. **Selling is hard :-)**

Foundation Ontology

No-ontology

[Cyc Knowledge Base](#)

[Freebase/Google Knowledge Graph](#)

[OpenCog AtomSpace](#)

[Webstructor/Aigents®](#)

Custom Domain

Graph Storage

Any RDBMS + time & triple indexing

Any “Triple Store” + time indexing

[TimeScale DB](#) + triple indexing

[OpenCog AtomSpace](#)

[Aigents® Temporal Graphs](#)

Semantic Language

RDF/OWL/Turtle/JSON-LD/SparQL

[Cycl](#) – Cyc Language (D.Lenat)

[ORL](#) (A.Kolonin, L.Kuzin)

[D0SL](#) (V.Gumirov, D.Sviridenko)

[OpenCog Atomese](#) (B.Goertzel)

[Narsese](#) (P.Wang, P.Hammer)

[AL – Aigents® Language](#) (A.Kolonin)

[Premise](#) (M.Miller)

Inference Engine

Non-Axiomatic Reasoning System – [NARS](#) (P.Wang, et. al.)

Logical Prediction System – “[Discovery](#)” (E.Vityaev et.al.)

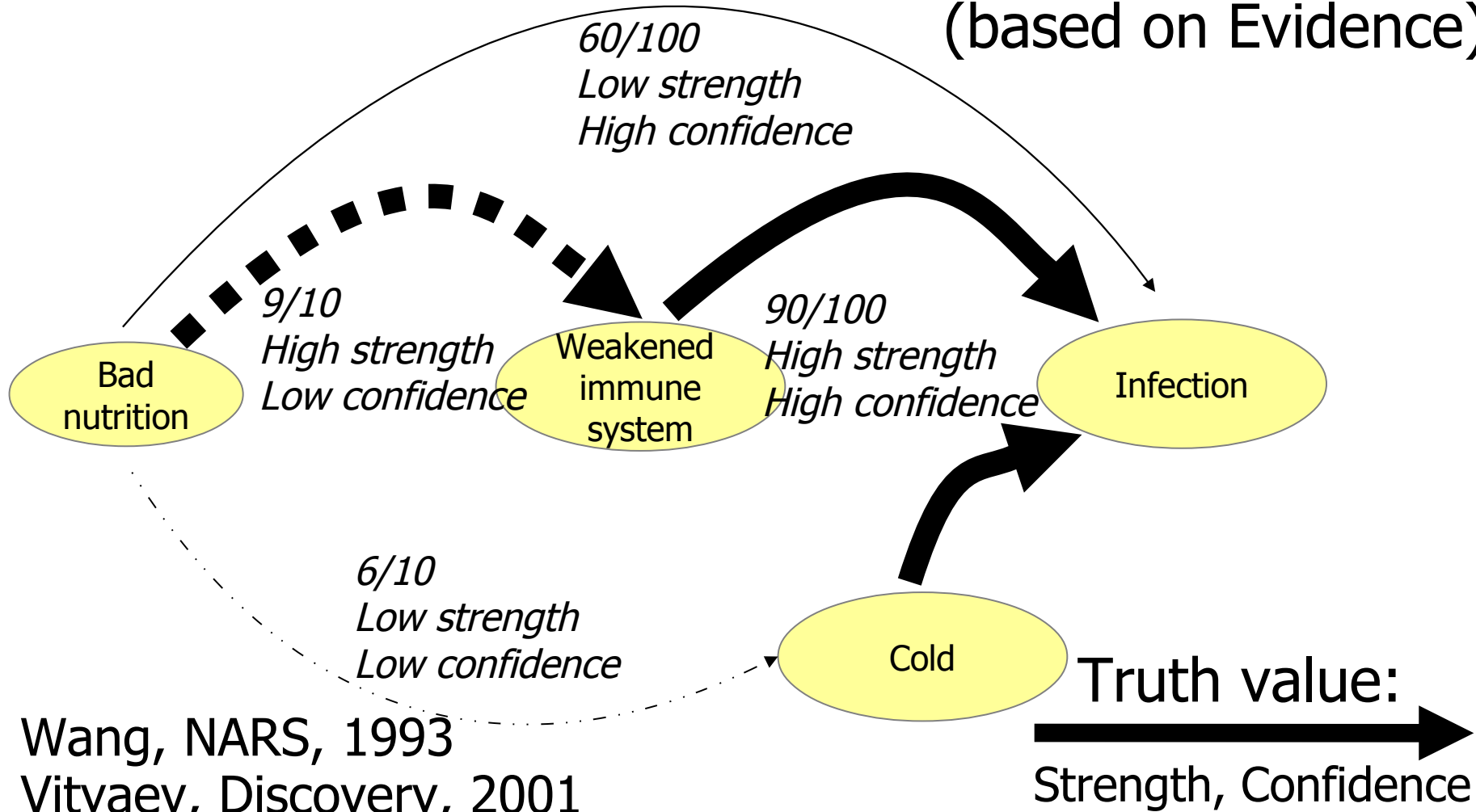
OpenCog Probabilistic Logic Network – [PLN](#) (B. Goertzel et. al.)

What is all you need?

	Inference Engine	Semantic Language	Graph Database	Foundation Ontology	License
OpenCog	Unified Rule Engine (URE)/ Probabilistic Logic Network (PLN)	Atomese	AtomSpace	AtomSpace Atom Types	GPL
Non-Axiomatic Reasoning System (NARS)	Non-Axiomatic Reasoning System (NARS)	Narsese	Internal In-memory	Ontology-agnostic?	MIT
Discovery + D0SL	Discovery	D0SL	Internal in-memory	D0SL	GPL + Commercial
Webstructor/ Aigents®	<i>TBD</i>	ORL, AL	Aigents Graphs	Aigents	MIT

Complex Truth Values for Probabilistic Logic

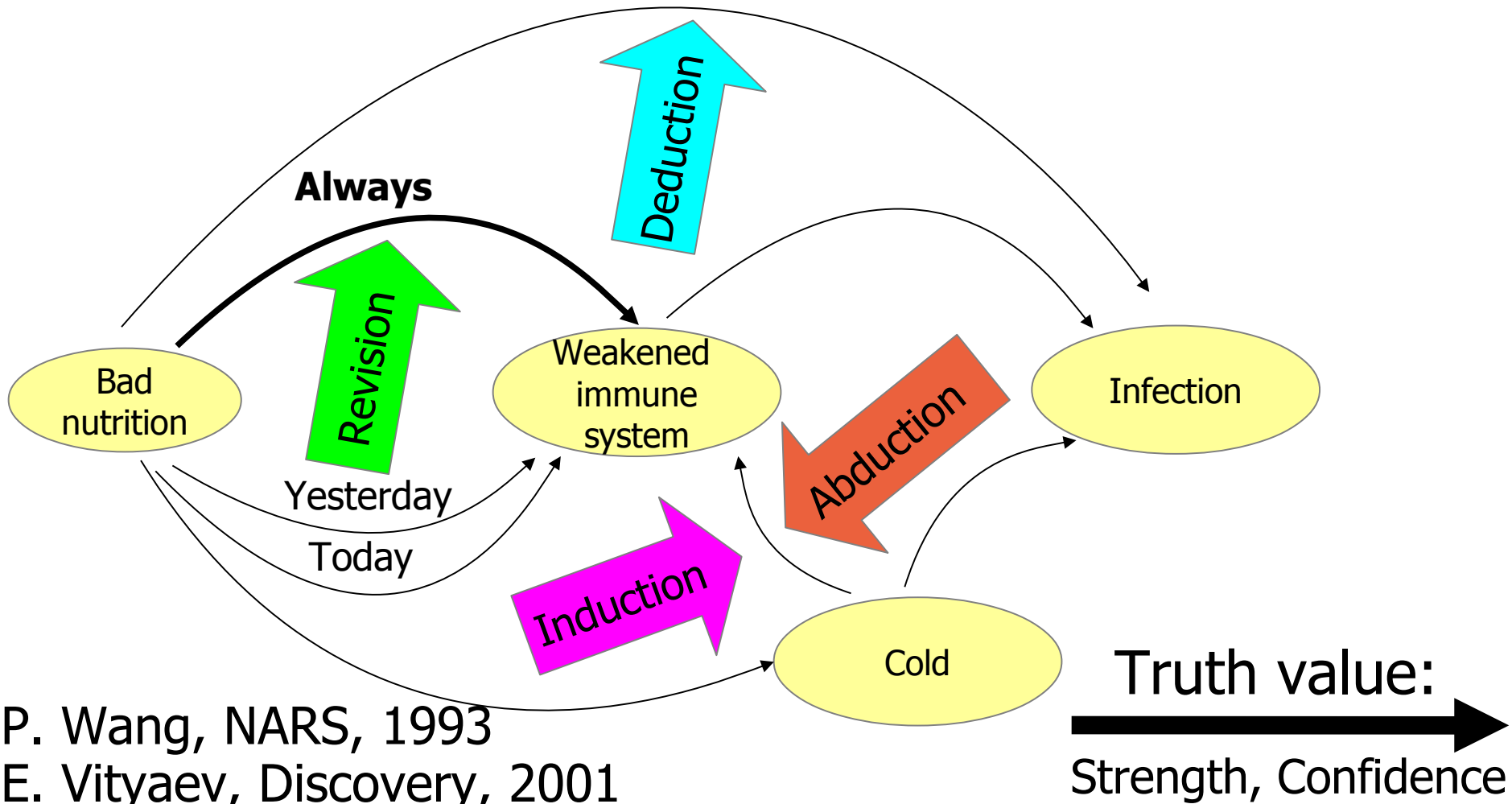
Probabilistic Logic: Separating Strength and Confidence
(based on Evidence)



- P. Wang, NARS, 1993
- E. Vityaev, Discovery, 2001
- B. Goertzel et al., PLN, 2008

Complex Truth Values for Probabilistic Logic

Example: Non-Axiomatic Reasoning System (NARS)

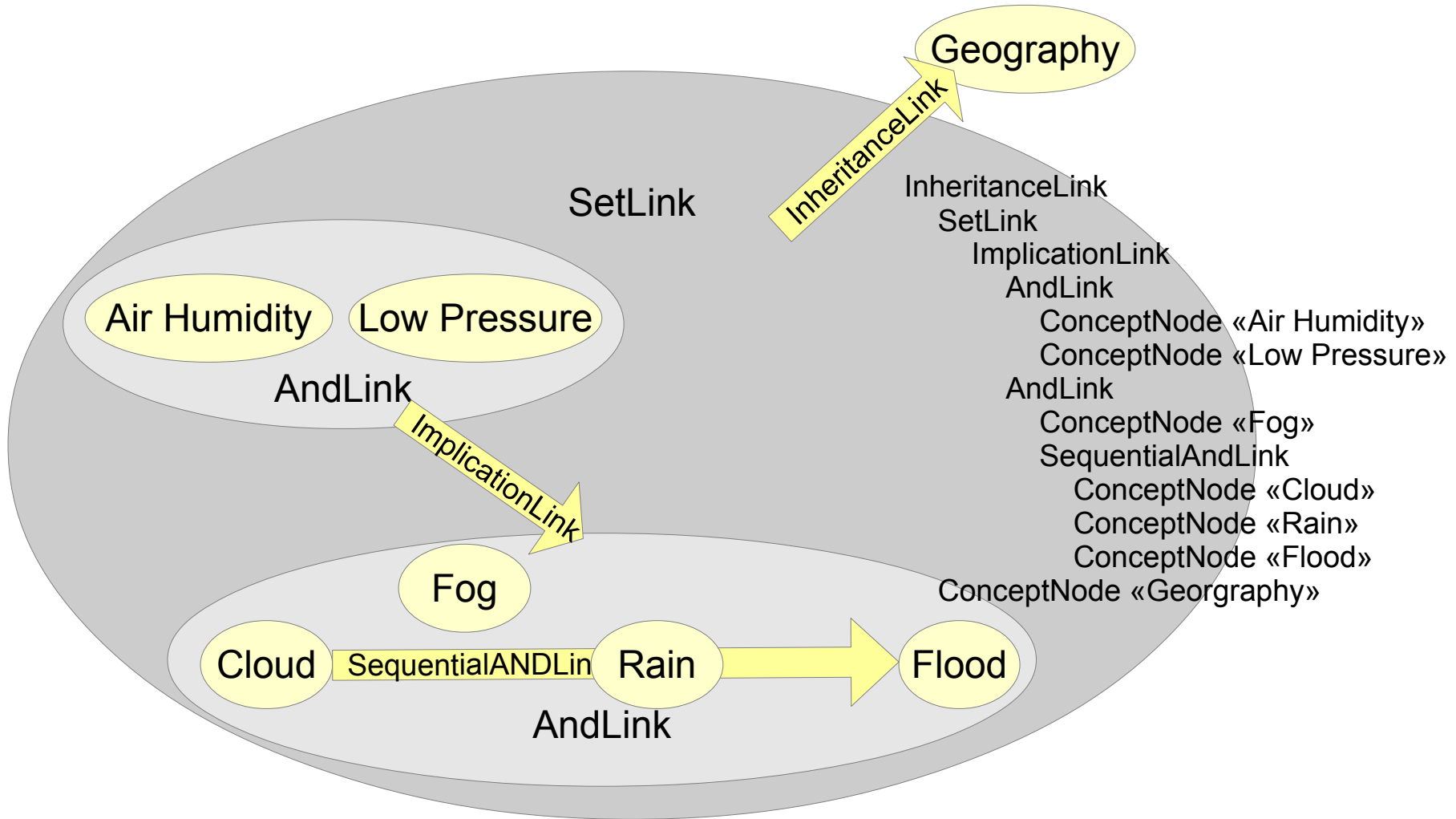


P. Wang, NARS, 1993

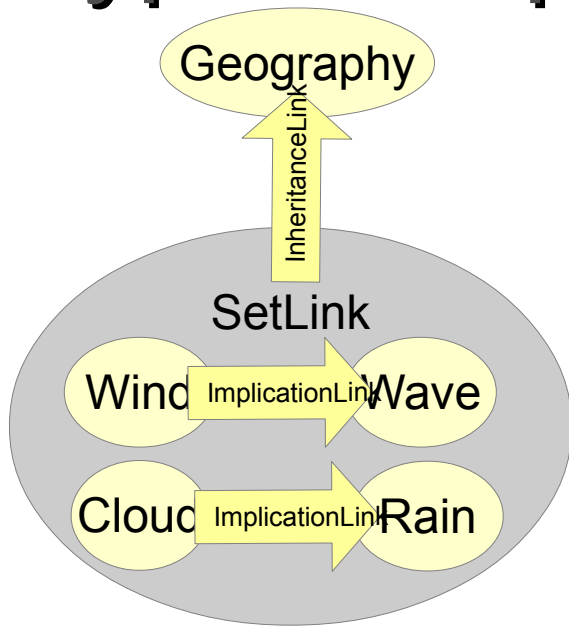
E. Vityaev, Discovery, 2001

B. Goertzel et al., PLN, 2008

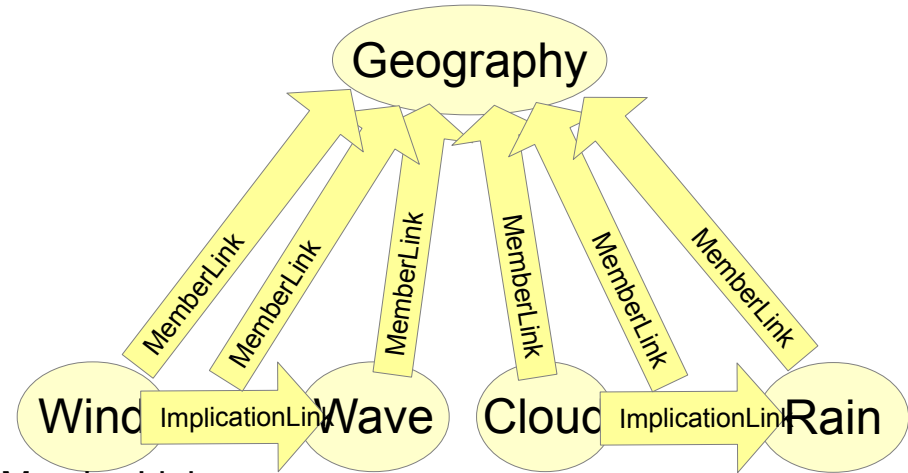
AtomSpace - Generalized (Link-as-Node) Hyper-Graph is a Meta-Graph (in Atomese)



AtomSpace - Meta-Graphs with Hyper-Graphs and Links-on-Links



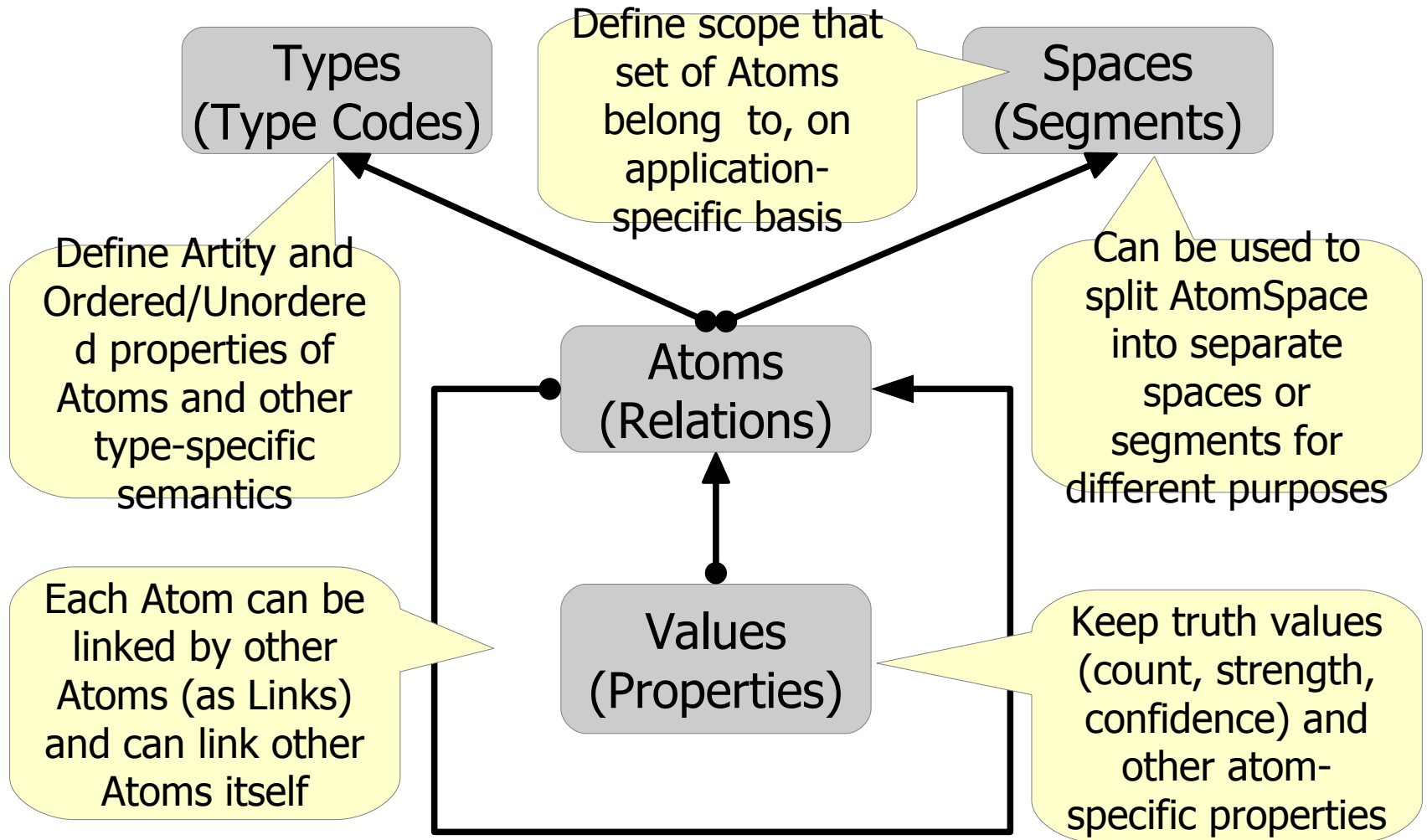
InheritanceLink
 SetLink
 ImplicationLink
 ConceptNode «Wind»
 ConceptNode «Wave»
 ImplicationLink
 ConceptNode «Cloud»
 ConceptNode «Rain»
 ConceptNode «Geography»



MemberLink
 ConceptNode «Wind»
 ConceptNode «Geography»
 MemberLink
 ConceptNode «Wave»
 ConceptNode «Geography»
 MemberLink
 ImplicationLink
 ConceptNode «Wind»
 ConceptNode «Wave»
 ConceptNode «Geography»

MemberLink
 ConceptNode «Cloud»
 ConceptNode «Geography»
 MemberLink
 ConceptNode «Rain»
 ConceptNode «Geography»
 MemberLink
 ImplicationLink
 ConceptNode «Cloud»
 ConceptNode «Rain»
 ConceptNode «Geography»

OpenCog AtomSpace, what's inside



https://github.com/opencog/atomspace/blob/master/opencog/atoms/base/atom_types.script

OpenCog Atoms - Inference

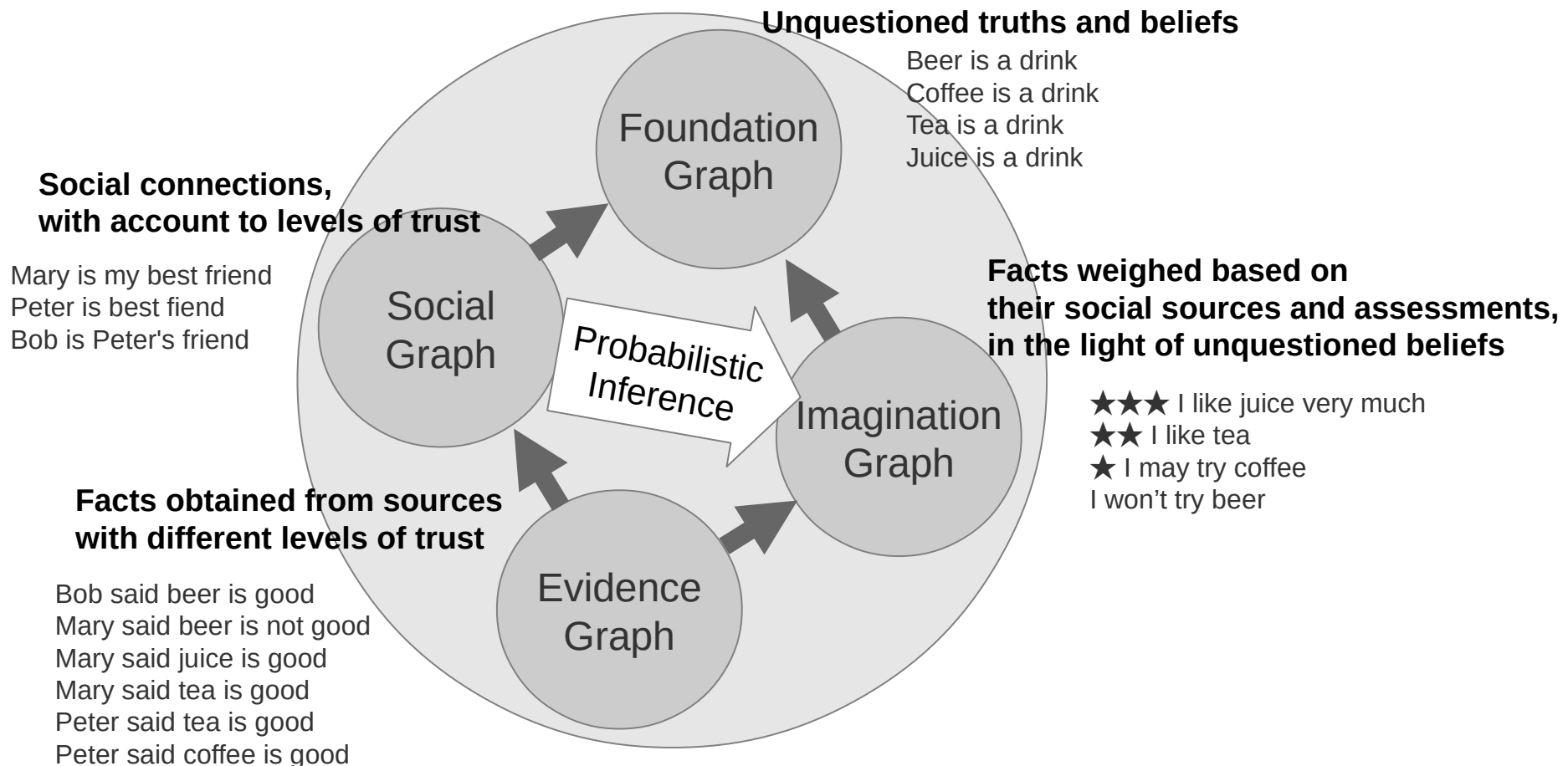
Id	Type	Space	Name (Label)	Level in Meta-Graph	Arity	Arguments	Truth Value: Count, Strength, Confidence
11	SequentialANDLink	5	-	2	2	13, 14	22 0.5 (22/44=50%) 1.0 («surely»)
1 2	SequentialANDLink	5	-	2	3	13, 14, 15	11 0.25 (11/44=25%) 0.5 («probably»)
1 3	ConceptNode	5	«Cloud»	0	0	-	44 1.0 1.0 («fact»)
1 4	ConceptNode	5	«Rain»	0	0	-	22 1.0 1.0 («fact»)
1 5	ConceptNode	5	«Flood»	0	0	-	11 1.0 0.5 («just new»)

Atom Type is used to infer if atom is link and if it is Ordered/directed or Unordered/undirected



https://github.com/opencog/atomspace/blob/master/opencog/atoms/base/atom_types.script

Social evidence-based resource-constrained cognitive-behavioral model



2015-2018

<https://ieeexplore.ieee.org/document/7361869>

<https://www.sciencedirect.com/science/article/pii/S1877050916317239>

https://link.springer.com/chapter/10.1007/978-3-319-97676-1_10

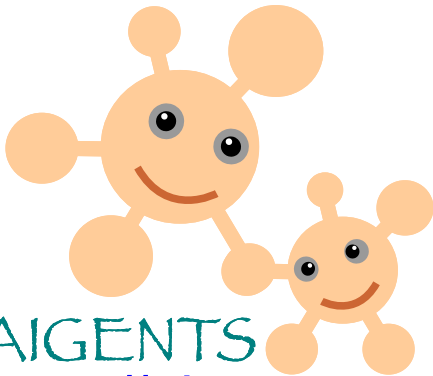
Thank you for attention!

Full version:

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akolonin@aigents.com

Telegram: akolonin



<https://aigents.com>



N* Novosibirsk
State
University
*THE REAL SCIENCE
<https://www.nsu.ru>

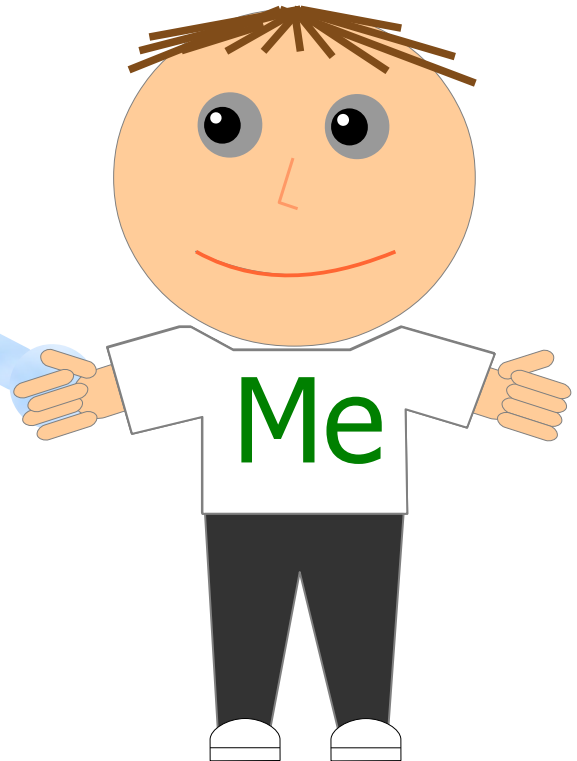
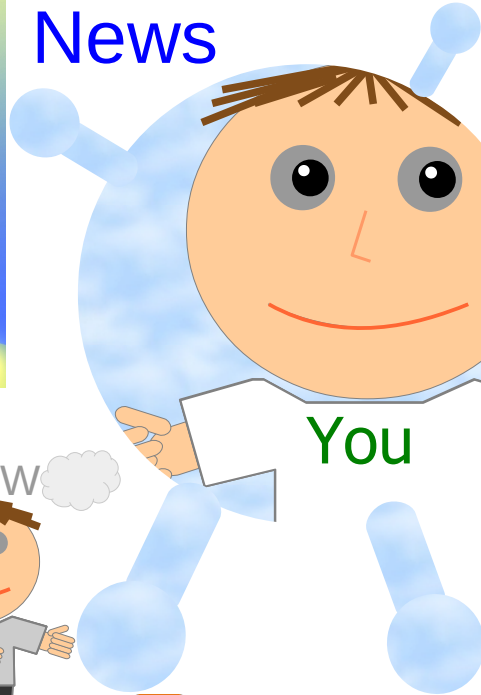


<https://agirussia.org>

Aigents[®] - Social computing platform



News



Ethereum PayPal

Steemit

Golos.id

Google

Vkontakte

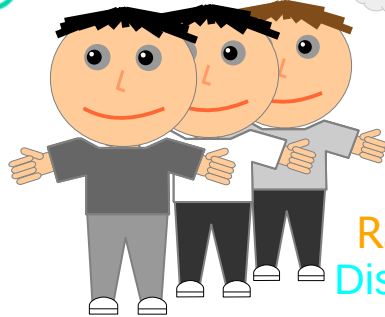
Facebook

Messenger

Slack

Telegram

WWW



RSS Discourse

Friends Twitter

Reddit

<https://aigents.com/>
<https://github.com/aigents>