

О явных и неявных графах или ЭКСПЛИЦИТНЫХ И ИМПЛИЦИТНЫХ ОНТОЛОГИЯХ



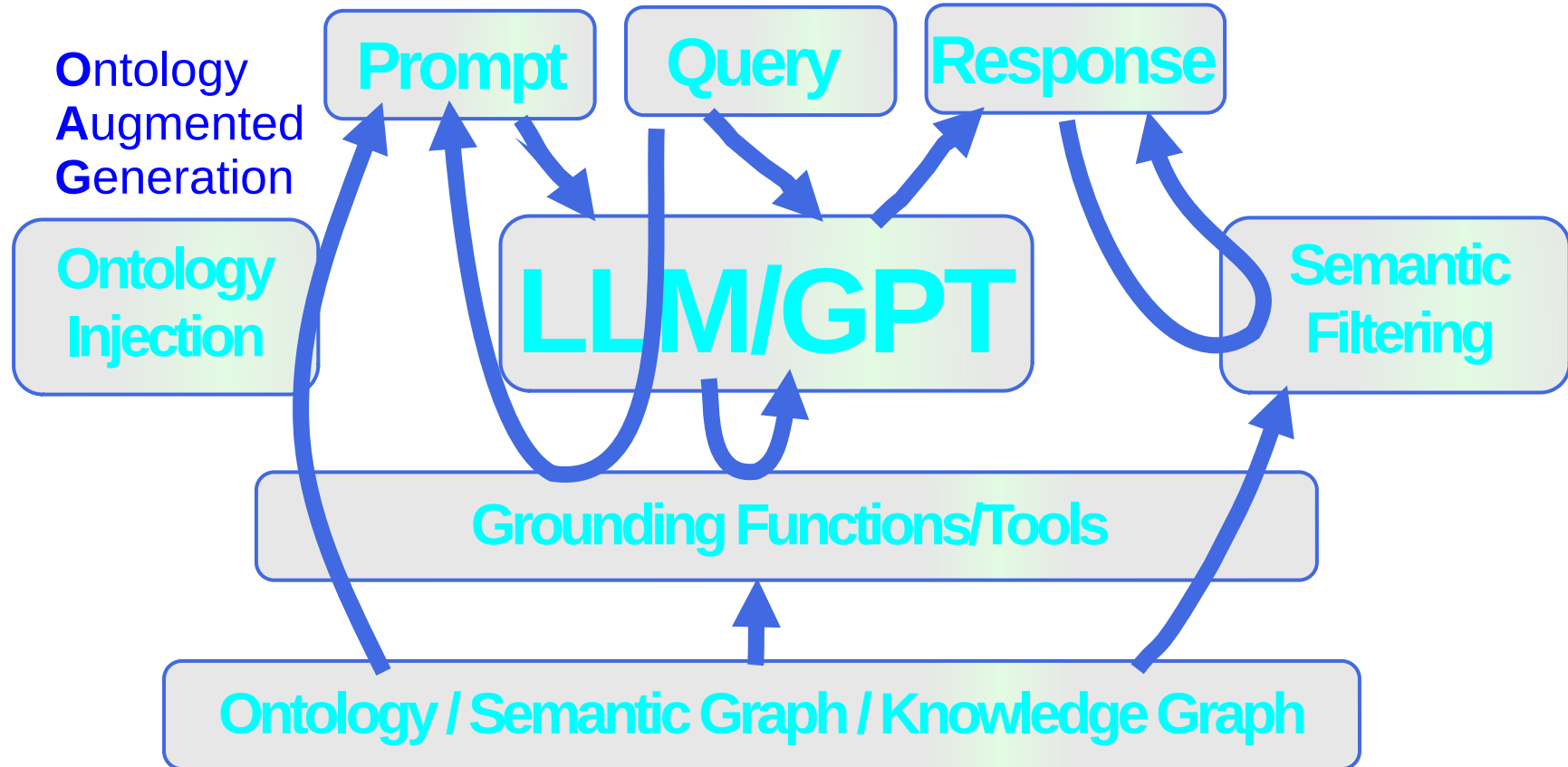
<https://agirussia.org>

Антон Колонин
akolonin@aigents.com
Messengers: akolonin



Why do we need INLP in LLM/DL/GPT era?

Fighting Hallucinations with OAG/RAG at Palantir



<https://blog.palantir.com/reducing-hallucinations-with-the-ontology-in-palantir-ai-288552477383>

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RAG/OAG/TAG + Tool Chains = is all you need?

https://python.langchain.com/v0.1/docs/modules/model_io/chat/function_calling/

```
from langchain_core.tools import tool
from langchain_core.messages import HumanMessage, ToolMessage

@tool
def price(tok: str) -> int:
    """Returns price of a token in USDt.

    Args:
        tok: token
    """
    return 101000 if tok == "bitcoin" else 3300 if tok == "ethereum" else 1

@tool
def volatility(tok: str) -> int:
    """Returns volatility of a token in percents.

    Args:
        tok: token
    """
    return 5 if tok == "bitcoin" else 10 if tok == "ethereum" else 50

llm_with_tools = llm.bind_tools([price, volatility])
```



Q: What is price of bitcoin?

A: The current price of Bitcoin is \$101,000 USD. Please note that cryptocurrency prices are subject to change rapidly and may not be up-to-date at the time of your inquiry. For the most recent and accurate information, I recommend checking a reliable cryptocurrency pricing source such as CoinMarketCap or CryptoCompare.

Q: What is volatility of bitcoin in percents?

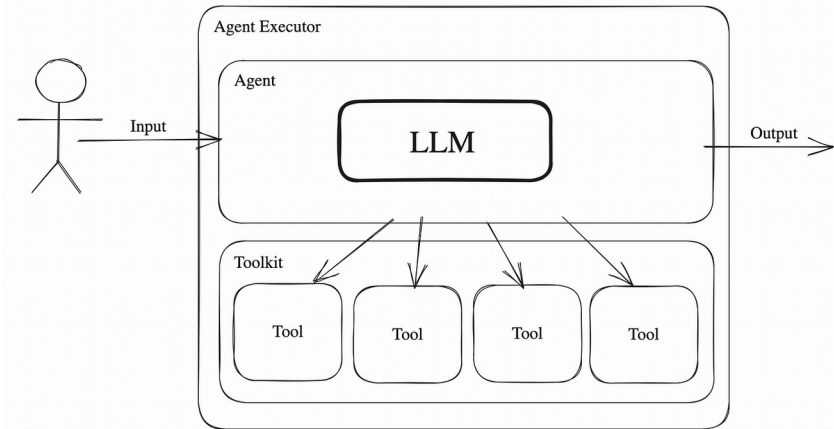
A: The current volatility of Bitcoin is around 5%. This means that the price of Bitcoin can fluctuate by approximately 5% within a short period of time.

Q: What is price of ethereum?

A: The current price of Ethereum is approximately \$3,300 USD per coin. Please note that cryptocurrency prices can fluctuate rapidly and may change since the last update. For the most up-to-date information, I recommend checking a reliable cryptocurrency exchange or API source.

Q: What is volatility of ethereum in percents?

A: The current volatility of Ethereum is approximately 10%. This means that the price of Ethereum is relatively stable, with a moderate level of price fluctuations over the past 30 days. However, please note that cryptocurrency markets can be highly volatile and subject to rapid changes, so this information may not reflect the current market situation. For the most up-to-date and accurate information, I recommend checking a reliable source such as CoinMarketCap or CryptoSlate.



<https://blog.gopenai.com/how-to-supercharge-your-llm-with-langchain-agents-90afa7766188>

Чего нам не хватает от БЯМ (LLM/GPT)?

Долгая дорога к AGI



Чего нам не хватает от БЯМ (LLM/GPT)?

Долгая дорога к AGI

AGI-строители! Пора за работу! Какие проблемы недопостроения AGI будем решать?

Poll 

12% Как тренировать и делать выводы БЯМ на смартфоне или на борту дрона



20% Как наделить системы на основе БЯМ сознанием и целепостановкой



40% Как обеспечить инкрементальное и быстрое обучение и переобучение в течение жизни



16% Как наделить БЯМ интерпретируемостью



52% Как сделать все вышеперечисленное без БЯМ



28% Как сделать все вышеперечисленное в импортозамещенном варианте



4% Как избежать гиперцентрализации AGI в руках 2-3 корпораций и/или государств



12% У меня есть что показать, сказать или спросить на указанные темы для участия в семинаре



ен

203?

LLM/GPT (или то, что придет за ними) научились инкрементальному обучению, до-обучению и переобучению на протяжении всего жизненного цикла, без катастрофического забывания/запоминания?

Новые архитектуры?

202?

LLM/GPT научились справляться с галлюцинациями - на основе онтологий, которые не нужно создавать вручную, а которые «как-то» строятся сами?

Графы?
Мультиагенты?

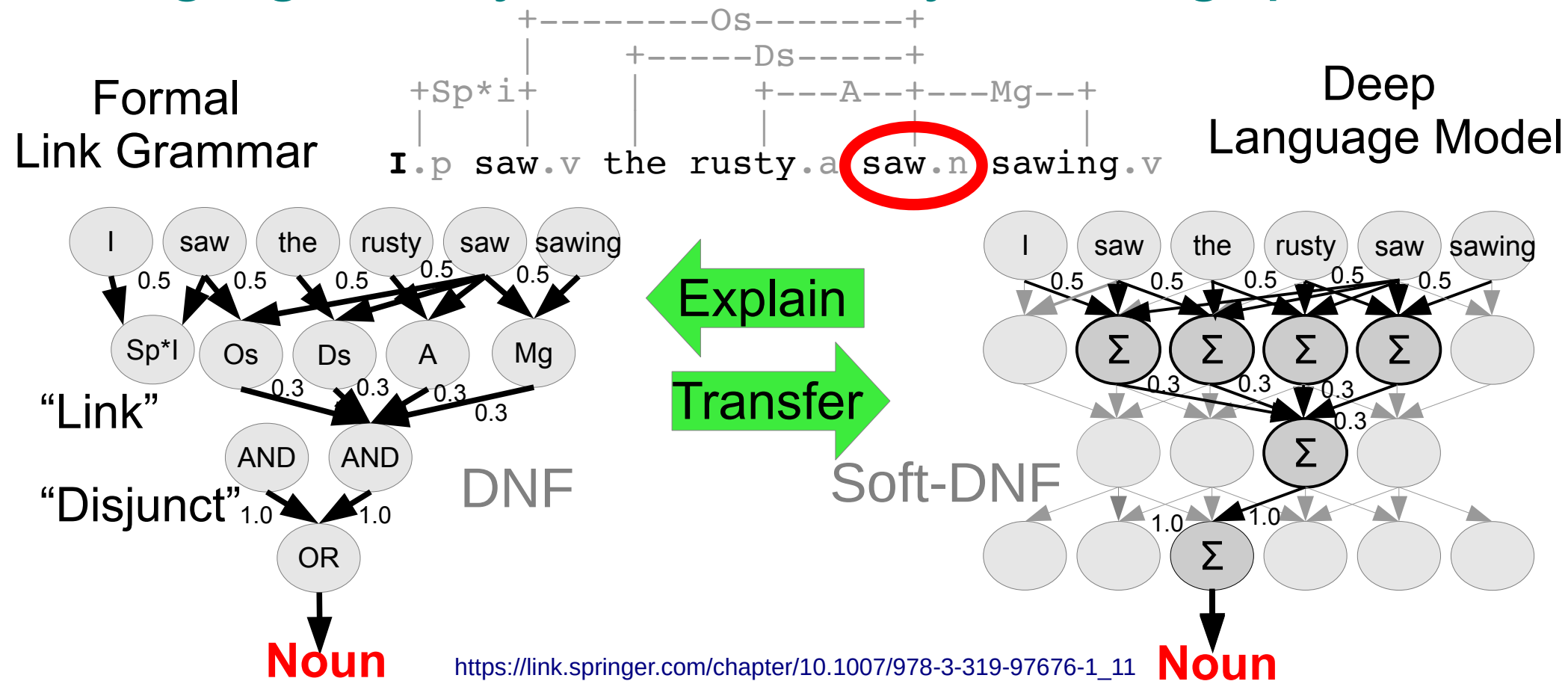
204?

Мы можем тренировать AGI на смартфоне?

Мы можем доверить AGI энергоблок АЭС или ПВО отдельно взятой страны?

Новое железо?
Все вместе?

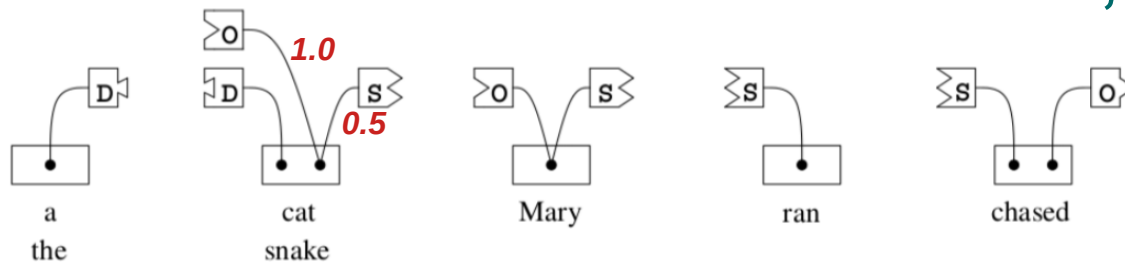
Bridging the Symbolic-Subsymbolic gap in NLP



https://link.springer.com/chapter/10.1007/978-3-319-97676-1_11
https://doi.org/10.1007/978-3-030-27005-6_11
<https://github.com/singnet/language-learning/>

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Link Grammar – Connectors/Costs, Disjuncts

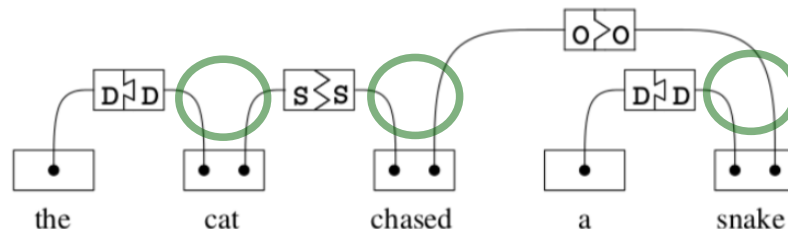


Connectors & Costs

An illustration of Link Grammar connectors and disjuncts. The connectors are the jigsaw-puzzle-shaped pieces; connectors are allowed to connect only when the tabs fit together. A disjunct is the entire (ordered) set of connectors for a word. As lexical entries appearing in a dictionary, the above would be written as

```
a the: D+;  
cat snake: D- & (S+ or O-);  
Mary: O- or S+;  
ran: S-;  
chased S- & O+;
```

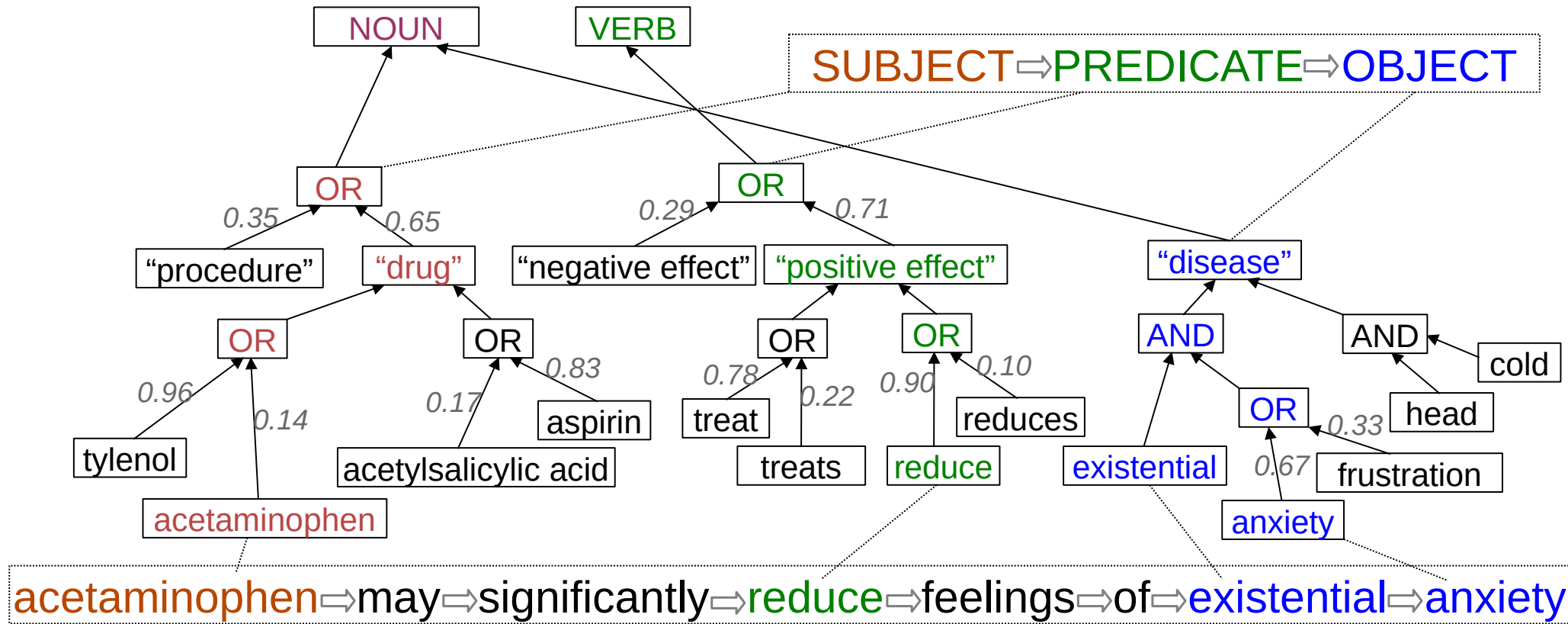
Note that although the symbols ‘&’ and ‘or’ are used to write down disjuncts, these are *not* Boolean operators, and do *not* form a Boolean algebra. They do form a non-symmetric compact closed monoidal algebra. The diagram below illustrates puzzle pieces, assembled to form a parse:



Disjuncts of Connectors

<https://arxiv.org/abs/1401.3372>
https://en.wikipedia.org/wiki/Link_grammar
<https://github.com/opencog/link-grammar>

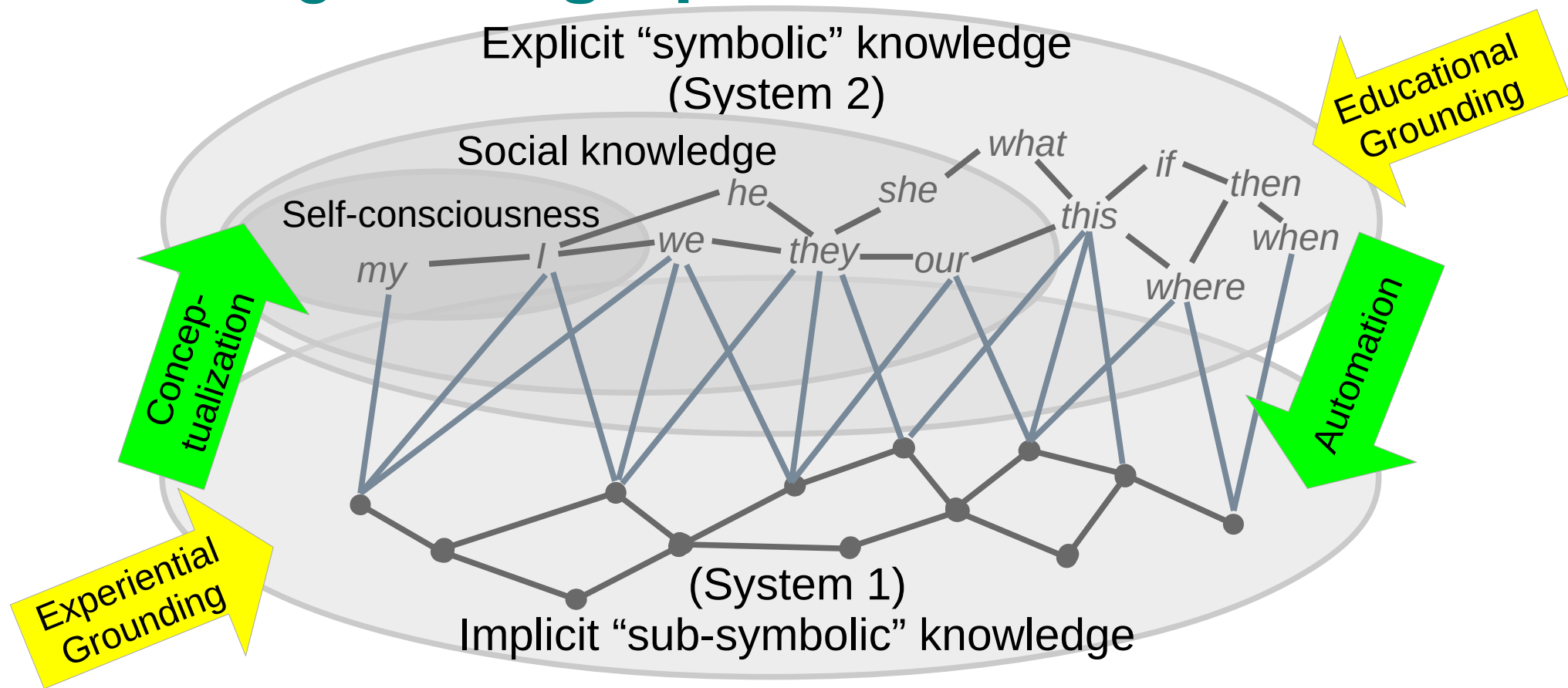
NLP patterns (words, punctuation, phrases) for Interpretable Natural Language Processing (Aigents® “Deep Patterns”)



<https://ieeexplore.ieee.org/document/7361868>
<https://github.com/aigents/aigents-java>

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Knowledge as a **graph** with maintenance cost



<https://www.amazon.com/Thinking-Fast-Slow-Daniel-Kahneman/dp/0374533555>

<https://amit02093.medium.com/atomspace-hyper-graph-information-retrieval-system-450cab9d751e>

Спасибо за внимание!

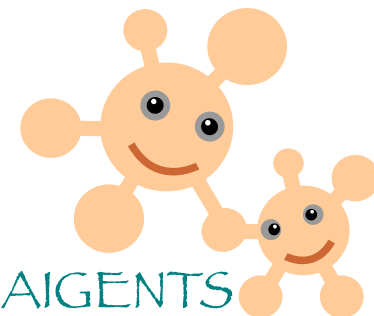
АНТОН КОЛОНИН

akolonin@aigents.com

Messengers: akolonin



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