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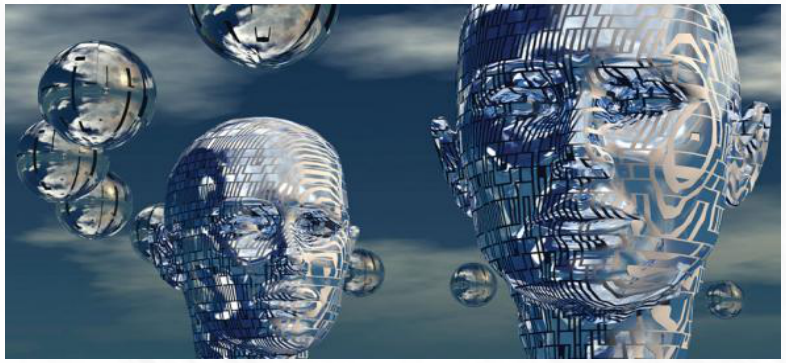
Information Veracity

Subhabrata Mukherjee
Max Planck Institute for Informatics

June 9, 2014

Online User Generated Data



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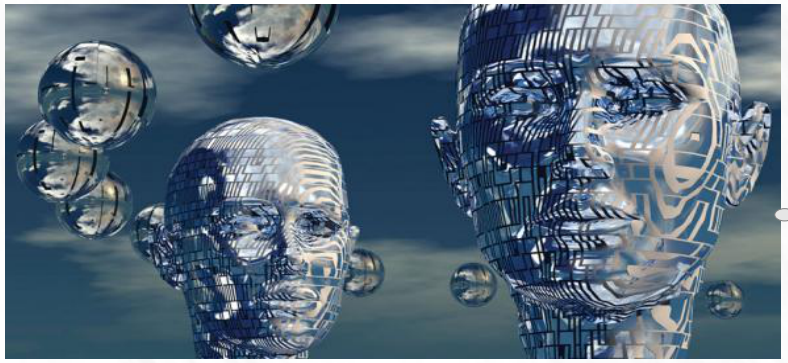

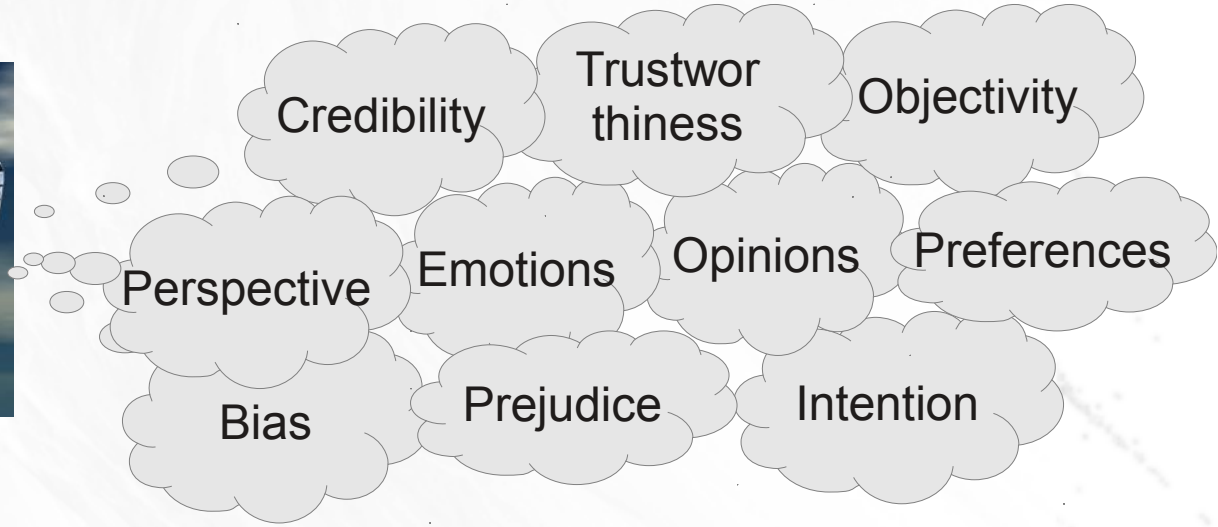

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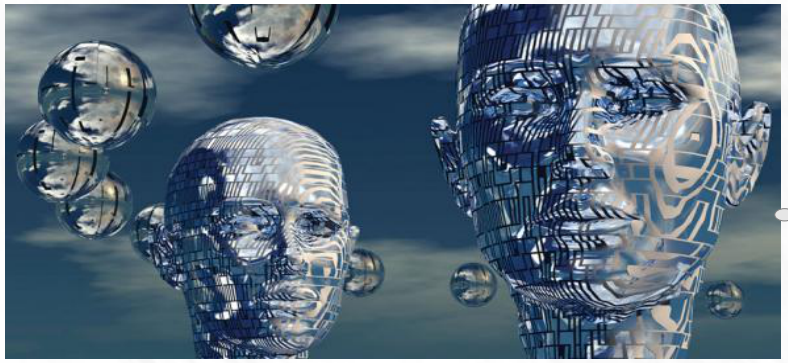

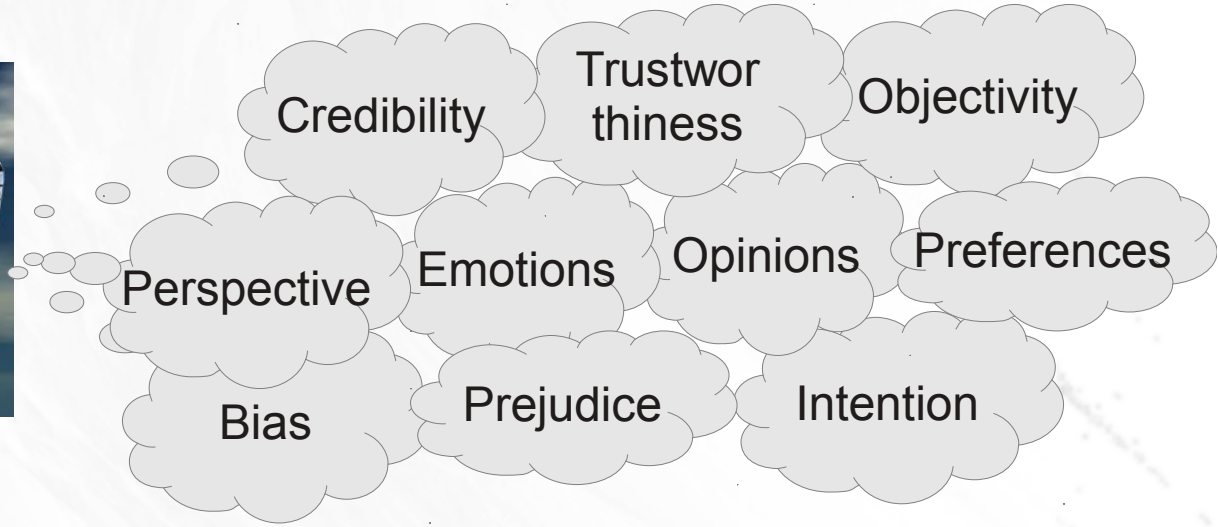

Veracity ?

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Information Veracity

- **Motivation**
  - 86% online users concerned about information *veracity*, more than 30% agree that information is not *trustworthy*
  - 28% report frustration in retrieving relevant information, 40% concerned about quality and 20% did not understand

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  - Analyze *joint interaction* between user *trustworthiness*, *objectivity* of posts and *credibility* of statements therein
- **Application**
  - Extracting drug side-effects from user posts in health community
  - Identifying rumors, mis-information in news articles

Language vs. Credibility

Naive User

"I heard Xanax can have pretty bad side-effects. You may have peeling of skin, and apparently some friend of mine told me you can develop ulcers in the lips also. If you take this medicine for a long time then you would probably develop a lot of other physical problems. Which of these did you experience ?"

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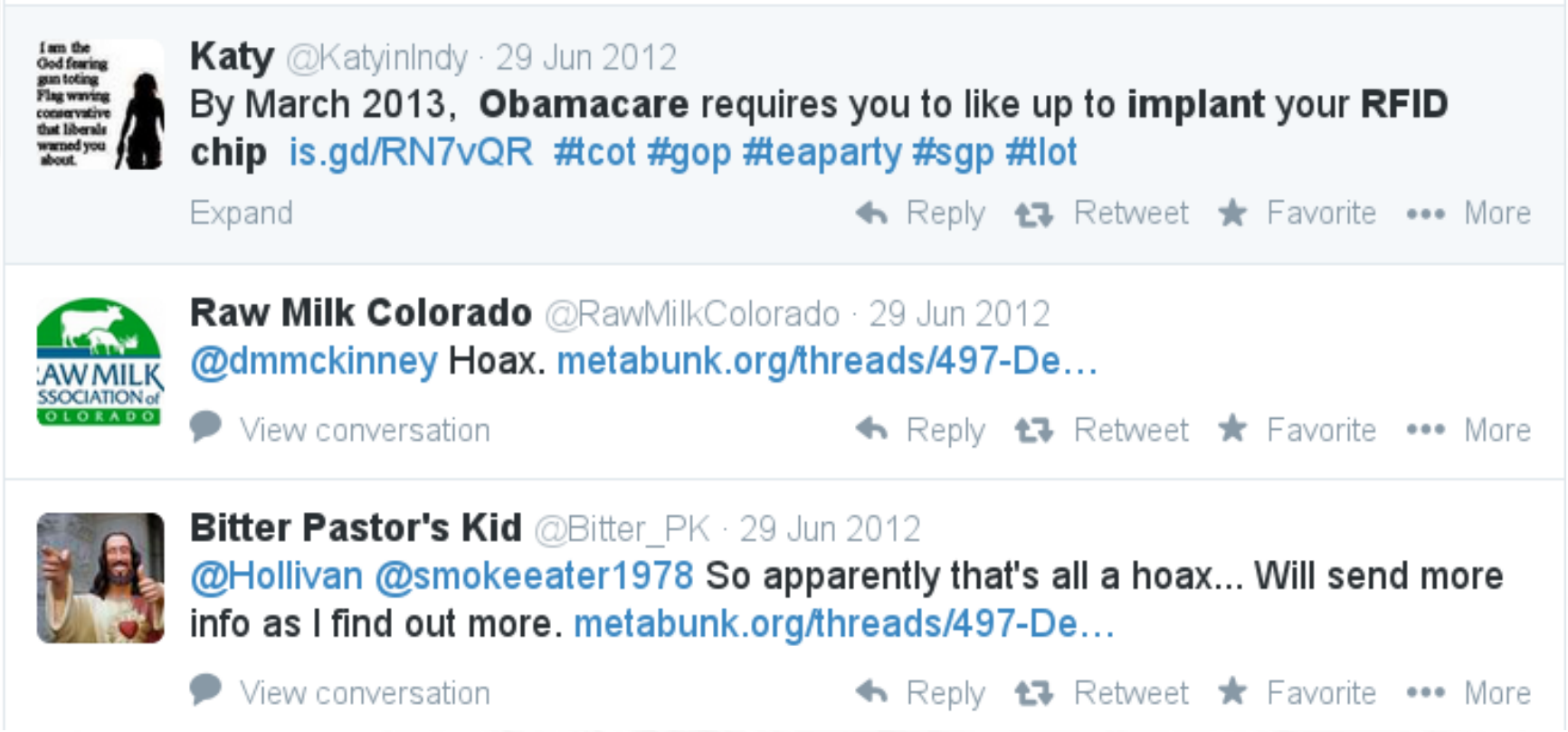
Naive User

"I've had chronic depression off and on since adolescence. In the past I've taken Paxil (made me anxious) and Zoloft (caused insomnia and stomach problems, but at least I was mellow). I have been taking St. John's Wort for a few months now, and it helps, but not enough. I wake up almost every morning feeling very sad and hopeless. As afternoon approaches I start to feel better, but there's almost always at least a low level of depression there throughout the day. "

Perspective, Time vs. Credibility



Rumor : Obamacare requires RFID microcip implant in all

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PageRank (Network Features) vs. Credibility

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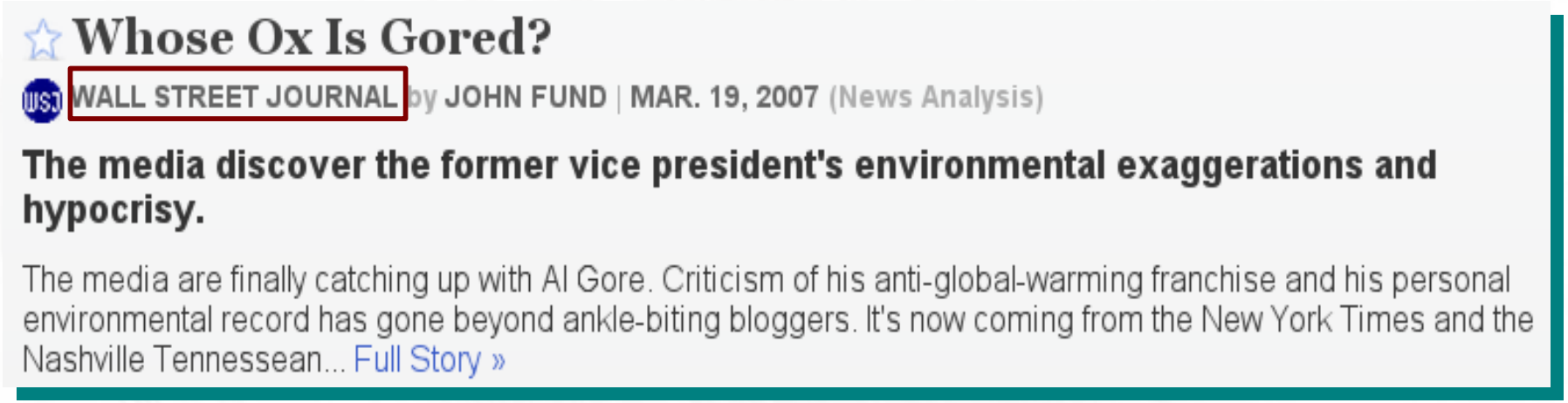

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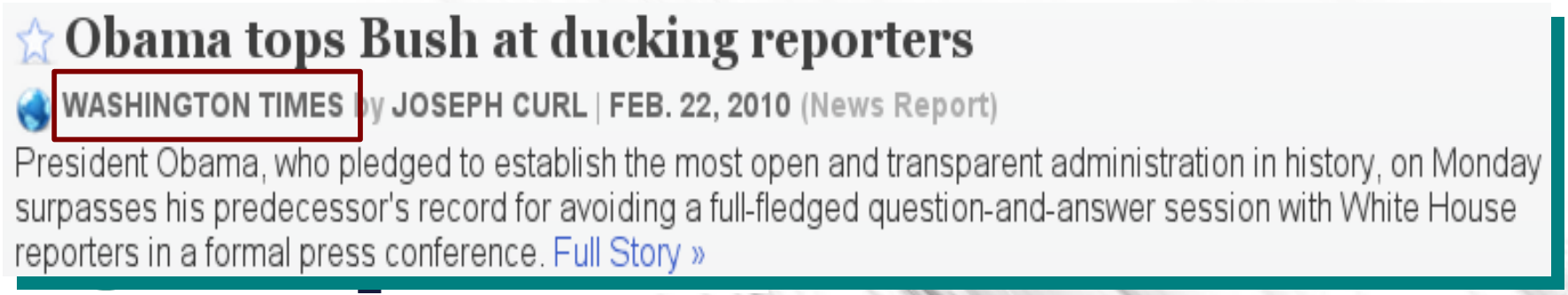

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- Network, generic IR word-level features not enough to measure credibility
- *Style*, *Content*, *Form* of data need to be analyzed
- **Interaction**[1] between **users** (network, perspectives ...), **language** of posts (style, form, content) and **statements** (truthfulness, knowledge-base) influence information veracity

[1] *To Appear* in KDD 2014