Linguistic Uncertainty: Why Communication is so Difficult

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Linguistic Uncertainty: Why Communication is so Difficult
linguis-uncer01.tex

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1 Highlights
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§ Baseball and linguistic uncertainty.
  • Metaphor for linguistic uncertainty.
  • Paradox of certainty.
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§ Meaning, context and reality.
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§ **Baseball and linguistic uncertainty.**
  - Metaphor for linguistic uncertainty.
  - Paradox of certainty.

§ **Meaning, context and reality.**

§ **Can language represent reality?**
  - Epistemic uncertainty.
  - Ontological uncertainty.
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  • Metaphor for linguistic uncertainty.
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§ **Meaning, context and reality.**

§ **Can language represent reality?**
  • Epistemic uncertainty.
  • Ontological uncertainty.

§ **Smudge metaphor.**
2 *Baseball and Linguistic Uncertainty*

§ **Source:**

Yakov Ben-Haim, 2011,

*Baseball and Linguistic Uncertainty.*\(^1\)

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§ The strike zone.
§ Baseball commentator.  

The art of pitching:

Throwing a baseball is like shooting a shotgun.  
You get a spray. . . .
§ Baseball commentator.

The art of pitching:

Throwing a baseball is like shooting a shotgun. **You get a spray.**

As a pitcher, you have to know your spray. You learn to control it, but you know that it is there. **The ball won’t always go where you want it.** . . .
§ Baseball commentator.

The art of pitching:

Throwing a baseball is like shooting a shotgun. You get a spray.

As a pitcher, you have to know your spray. You learn to control it, but you know that it is there. The ball won’t always go where you want it.

And furthermore, where you want the ball depends on the batter’s style and strategy, which vary from pitch to pitch for every batter.
§ Baseball pitchers manage uncertainty!

§ Suppose you want to throw a strike.

• Pitch to low outside corner?
§ Baseball pitchers manage uncertainty!

§ Suppose you want to throw a strike.

• Pitch to low outside corner?

• No. Up and in a bit due to:
  ○ Spray.
  ○ Batter’s variable stance.
§ Pitch-uncertainty like word-uncertainty.

- Meanings spread like pitcher’s spray.

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§ Pitch-uncertainty like word-uncertainty.
  • Meanings spread like pitcher’s spray.
  • Speaker must control verbal uncertainty.
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§ Example: “liberal”.

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- Webster’s definition:
  - Generous, open-handed.
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§ **Example: “liberal”.**

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§ Example: “liberal”.
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    ◦ Generous, open-handed.
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§ **Example: “liberal” .**

- Webster’s definition:
  - Generous, open-handed.
  - Lacking moral restraint.
  - Broad-minded.
  - Not literal or strict.
§ Liberal in 20th c US supports big govt:

•
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§ Liberal in 19th c UK supports small govt:
  • low taxes, no welfare,
  • private housing and health insurance,
  • free trade to all countries.
  • Individual rights.
§ Return to baseball:

• If there is no uncertainty in pitcher’s pitch and batter’s swing,
  Then baseball would be boring.
§ Return to baseball:

- If there is no uncertainty in pitcher’s pitch and batter’s swing, then baseball would be boring.

- If batter knows ball’s trajectory and completely controls the bat, then every swing will be a homer.
§ Return to baseball:

- **If there is no uncertainty** in pitcher’s pitch and batter’s swing,
  Then baseball would be **boring**.

- **If batter** knows ball’s trajectory and completely controls the bat,
  Then every swing will be a homer.

- **If pitcher** knows how batter will swing, and each throw is perfect,
  Then every batter will strike out.
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• If there is no uncertainty in pitcher’s pitch and batter’s swing, Then baseball would be **boring**.

• If batter knows ball’s trajectory and completely controls the bat, Then every swing will be a homer.

• If pitcher knows how batter will swing, and each throw is perfect, Then every batter will strike out.

• Is there a problem here?
§ Which is it? Pitcher or batter? It can’t be both. Whose certainty dominates?
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§ Deep philosophical problem here.

There cannot be complete certainty in a world with:

- Free will, surprise, or discovery.
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There cannot be complete certainty in a world with:
  ◦ Free will, surprise, or discovery.
  ◦ Conflict of action or interest.
§ Which is it? Pitcher or batter? It can’t be both.  
Whose certainty dominates?

§ Deep philosophical problem here.

There cannot be complete certainty in a world with:
- Free will, surprise, or discovery.
- Conflict of action or interest.
- Perfect symmetry (leading to conflict of action).
§ Back to human speech:

• If there is no uncertainty in what I will say, Then you will be bored by my talk.

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• **If there is no uncertainty** in what I will say, 
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• **Example:**
  - You don’t know what I mean by “uncertainty”,
    so my lecture is interesting.
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  - You don’t know what I mean by **“uncertainty”**,  
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  - **You disagree** with me (and tell me)  
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- Makes talk, baseball and life interesting.
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    so my lecture is interesting.
  
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    so I learn something too.

§ **Uncertainty:**

- Makes talk, baseball and life interesting.

- Is logical necessity for free will, conflict, symmetry.
§ Source:

Yakov Ben-Haim, 2006,

§ Why is communication difficult?

- “Today is November 6th.”
  
  Date of Russian *October* revolution.
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  Exactly? Always? Which diameter?
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§ Summary: Communication is difficult because:

- **Meaning** depends on context.
- **Context is uncertain.**
§ Summary: Communication is difficult because:

- **Meaning** depends on **context**.  
- **Context** is uncertain.
- **Meaning** depends on **reality**.  
- **Reality** is uncertain.
§ **Summary:** Communication is difficult because:

- **Meaning** depends on **context.**  
- **Context** is uncertain.
- **Meaning** depends on **reality.**  
- **Reality** is uncertain.

§ **Can language represent reality?**

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§ Summary: Communication is difficult because:

- **Meaning** depends on **context**. • **Context** is uncertain.
- **Meaning** depends on **reality**. • **Reality** is uncertain.

§ Can language represent reality?

§ Language is uncertain in two ways:

- **Knowledge** is uncertain: **Epistemic** uncertainty.
Summary: Communication is difficult because:
  • Meaning depends on context. • Context is uncertain.
  • Meaning depends on reality. • Reality is uncertain.

Can language represent reality?

Language is uncertain in two ways:
  • Knowledge is uncertain: Epistemic uncertainty.
  • Reality is uncertain: Ontological uncertainty.
§ Summary: Communication is difficult because:
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§ Goal is to understand:
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§ Summary: Communication is difficult because:
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  • How to rely on language to state truths.
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- How to rely on language to state truths.

§ Approach: **Info-gap theory**.
§ “Smudge” metaphor:

- Accurate rep’sentation of a dot is something dot-like.
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§ Ontological uncertainty: The world is uncertain.
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Ontological uncertainty: The world is uncertain.
- What we can know about is not a crisp dot but a foggy smudge.
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§ Ontological uncertainty: The world is uncertain.

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- Examples of smudgy reality:
  - Heisenberg uncertainty. \( \Delta E \Delta t \geq \hbar, \quad \Delta x \Delta p \geq \hbar. \)
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  o Heisenberg uncertainty. \( \Delta E \Delta t \geq \hbar \). \( \Delta x \Delta p \geq \hbar \).
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  o Computational indeterminacy: Penrose problems.
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§ Epistemic uncertainty:
  Knowledge and language are uncertain.
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§ Epistemic uncertainty:
Knowledge and language are uncertain.
• What we can know is not a crisp dot but a foggy smudge.
• Examples of smudgy knowledge/language:
  ◦ Sloppy or erroneous thinking.
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- Examples of smudgy knowledge/language:
  - Sloppy or erroneous thinking.
  - Incomplete theory: non-unified physics.
  - “Penumbra of vagueness”, “stimulus meaning” of words. (Quine).
§ Ontological uncertainty: The world is uncertain.
  • What we can know about is not a crisp dot but a foggy smudge.
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§ Epistemic uncertainty:
  Knowledge and language are uncertain.
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§ Can language represent reality?
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§ Ontological uncertainty: The world is uncertain.
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§ Epistemic uncertainty:
  Knowledge and language are uncertain.
  • What we can know is
    not a crisp dot but a foggy smudge.

§ Can language represent reality?
  • Reality is uncertain (ontological uncertainty).
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§ Ontological uncertainty: The world is uncertain.
  • What we can know about is not a crisp dot but a foggy smudge.
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  Knowledge and language are uncertain.
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§ Can language represent reality?
  • Reality is uncertain (ontological uncertainty).
  • Lang. and knowledge are uncertain (epistemic uncer.)
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§ Ontological uncertainty: The world is uncertain.
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  • Epistemic smudge represents Ontological smudge.
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§ Can assertions be TRUE? . . . .
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§ Can assertions be TRUE? Yes, in a smudgy sense.
Uncertainty:

The freedom to err,

The opportunity to create and discover.

What would we do without it?

What do you think?