

# Norm Participation Grounds Language

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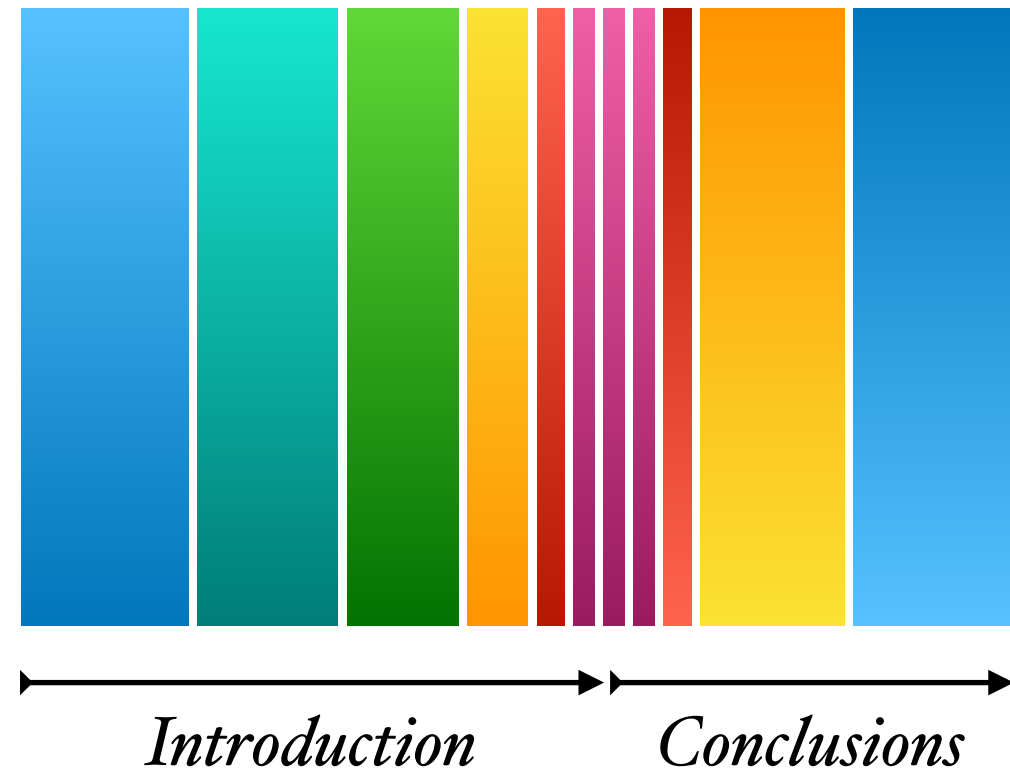
(dis)embodiment, CLASP Workshop

2022-09-16

These slides:

<https://clp.ling.uni-potsdam.de/talks>

# Structure of this talk



# Goals

- Negative Goal: Argue against “grounded language”.
- Positive Goals:
  - Argue for richer understanding of grounding, & emphasis on investigating & modelling certain dialogical skills.
  - Contribute to clearer understanding of conditions of use of NLP technology.

# *Resist!*

- “Norm participation grounds language”

\_\_\_\_\_ grounds language

*Perception, Vision, Experience, ...*

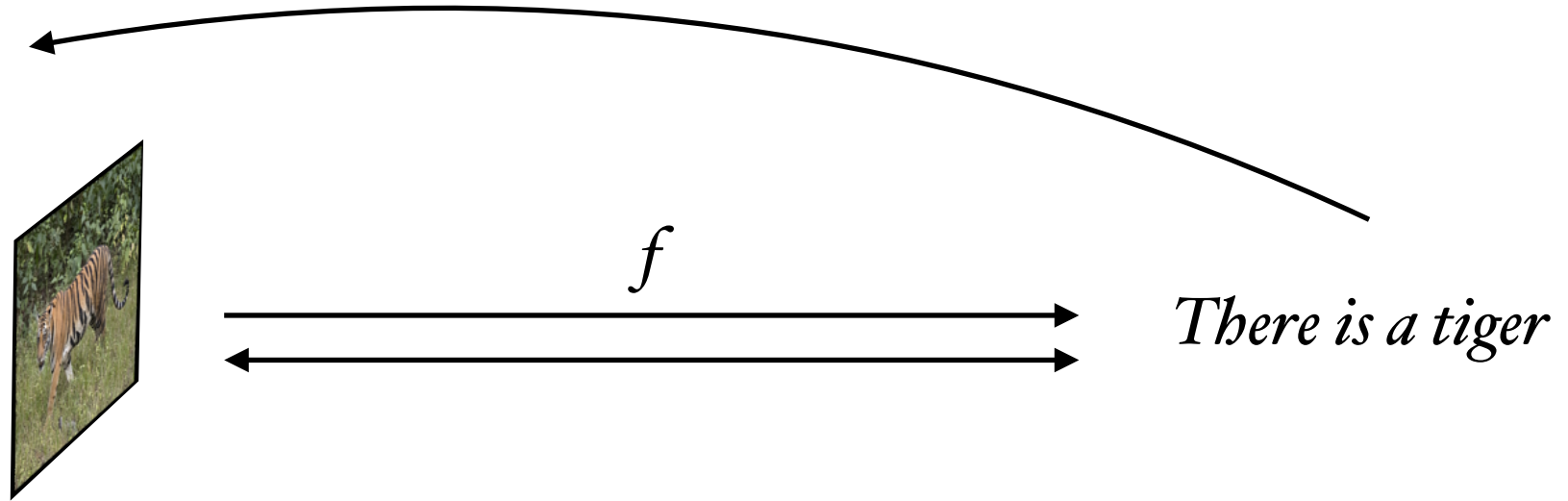
- Interpretability and Analysis of Models for NLP
- Language Grounding to Vision, Robotics and Beyond
- ~~Interpretability, Theoretical Grounding, Modeling and Development~~

- Against accuracy!

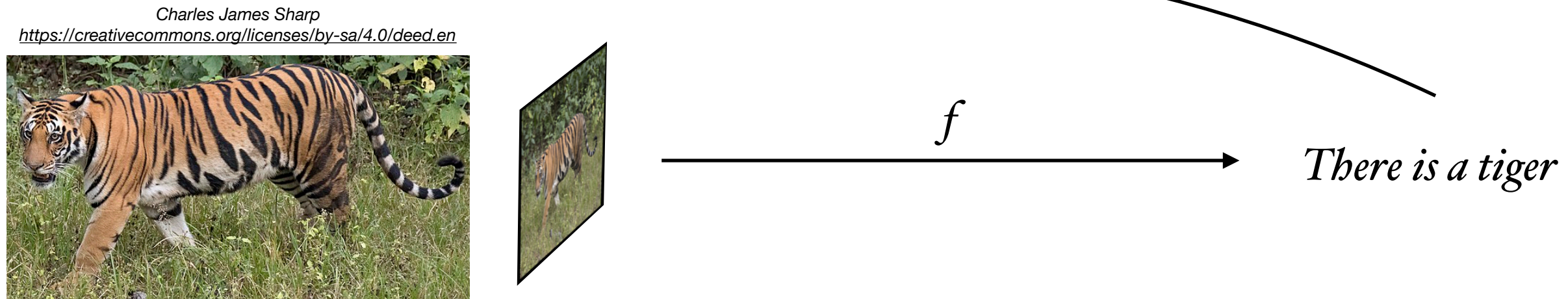
For correctness

- interactive / dialectic
- (partially) holistic

# observation statements



# observation statements



This is flawed, along two dimensions:

- Quantity; 3 basic moves in a language game (Sellars 1954)
  - Language-Entry
  - Language/Language
  - Language-Exit
- Quality: The link is *normative*.
  - Agent must be able to be mistaken about *applicability*.
  - The link must be *accepted* to exist.

# commitments & entitlements

Charles James Sharp  
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epistemic  
standing

*There is a tiger*

What makes this a justified assertion, a correct assertion, a correctly performed assertion; what makes the asserter competent?      What *entitles* asserter to make this assertion?

- *true* statement: SoA obtains, it's the truth-maker to the truth-bearer
- justified *assertion*:
  - epistemic conditions for forming reliable beliefs hold
  - there *is* a norm that justifies the forming of this belief
  - there *is* a norm that justifies the expression of this belief in this way

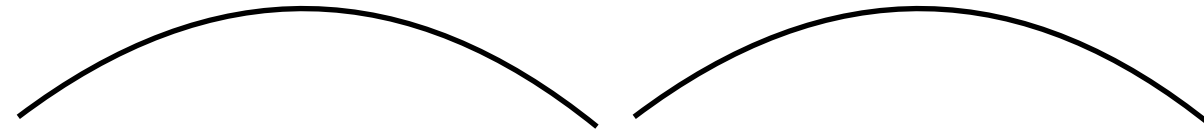
The norms that  
*entitle also commit!*



# why beliefs?

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*There is a tiger*

*There is a tiger*

Ah, no, that's my  
new Barye copy.

*Oh, I really thought  
there was a tiger!*



*There is a tiger*  
WTF?

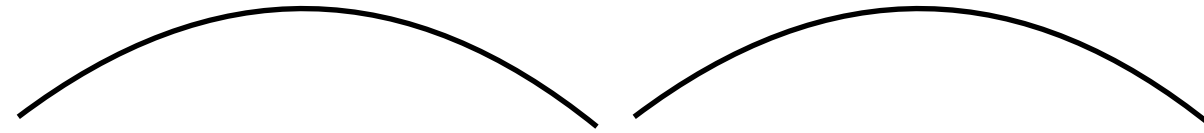
Background photo by Daria, <https://www.flickr.com/photos/epicantus/15449590579>  
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# why inferences?

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*There is a tiger*

*A sculpture is an artefact*

*A sculpture of something looks  
like that something*

*A tiger is an animal*

*An animal is a living thing*

material inferences / “common sense”

*There is a tiger sculpture*

*There is a tiger*

# norm *participation*

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*There is a /'ti:gə/*  
Yes, a /'taigə/

*Tiger!*  
Yes, there's a tiger.



*Haplochromis (Wikipedia)*

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*There is a tiger*  
Well, it's a leopard.  
Different fur, smaller.



# intermediate summary

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$f$

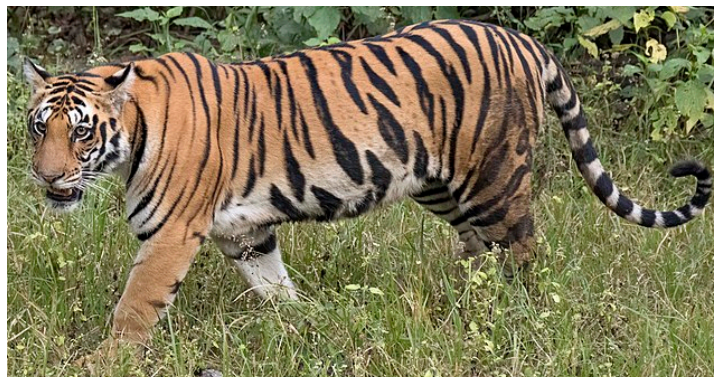
*There is a tiger*

norm conformance

- (Implicitly) assumes absolute authority of norms reflected in training data.
- Cannot make criteria explicit (= debatable).
- Machines cannot commit.

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norm participation

*There is a tiger*  
Really?

# practical takeaways

- practical consequences:
  - let us try to understand better how these processes work: conceptually, empirically, formally, and computationally.
  - E.g., the relation between conversational grounding and norm grounding, their role in language acquisition, language maintenance (and change), meaning debates, etc.
    - *inter alia* Larsson & Myrendal 2017, Noble 2019, ...
    - Schlangen 2016, Attari et al. 2019; Rauhut et al. *forth.*
  - let us be clear on what language-producing machines can and cannot be: instruments (with product liability), yes;  
carriers of normative status, no

# some Qs, and (fewer) As

- What if we increase accuracy to 100%?
  - Unlikely; but in any case, you'd still be measuring against whatever that one dataset implicitly encodes. Total authority (very few domains).
- Is that not just rule-conformance vs rule-following?  
Reasons vs causes? Etc.
  - Maybe. For me, *norm* carries an additional force (& allows for implicitness), but that needs to be worked out in more detail...
  - Also, the *participation* (interaction, dialectic) part is less often discussed.
- Why not (Lewis-style) *convention*?
  - See above. The Lewis formulation doesn't seem to capture the right type of force. This is more than coordination?

# some Qs, and (fewer) As

- Are you saying that inferences like “all tigers are animals” are purely convention, norms?
  - No. Being able to make that inference if you are a user of the word “tiger” is a normative expectation.
- Are you saying that all true inferences connected to a concept should by default (by norm) be known?
  - No. But some (currently thought to be true) ones should. Which those are can change over time. And expectations can differ. Hence, *participation*.
- Are you saying that all meaning making rests on norms? Where is the creativity?
  - Jein. There’s also norm *exploitation*, which bases ad-hoc inferences on norms and allows for creativity.



# some Qs, and (fewer) As

- So, a normativist, Sellars-type conceptual role semantics. What's new?
  - Philosophers have, by and large, not bothered to look into the exact methods in which norms are created, enforced, adapted in and through dialogue. An invitation to do so.
- What does this have to do with AI technology, again?
  - It has to do with the use of AI technology. If you're claiming that the output is meaningful language, it has to follow the rules for meaning making. (Explainability, correctability, etc.)
  - (A different talk: How to ensure that the socio-technological system is set up in the right way for "language instruments", as opposed to "language users".)

# some Qs, and (fewer) As

- What does it mean to be committed through language use?
  - It means being able to suffer the consequences of making a false statement, for example. Which can vary from being corrected to being punished.
  - If you sell a language-producing NLP product, you are getting committed by it.
- Is this not overly rationalistic? Few people want to (or can) debate meanings, or let debates be settled.
  - *“If I have exhausted the justifications, I have reached bedrock and my spade is turned. Then I am inclined to say: ‘This is simply what I do.’”*

PU §217

# some Qs, and (fewer) As

- So if I train a perfect „dialectic transformer” that does this kind of meta-linguistic interaction, does that then mean that I have built “an AI”?
  - You have something that plays our game of meaning making better. Whether we should let it play is another question.
  - (My hunch: It is not possible to learn meta-linguistic interaction from observational data.)
- How should I even evaluate my system if not via accuracy? Give me something practical.
  - Benchmarks that systematically test whole conceptual domains.

# Goals

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Thank you.

Questions, Comments?



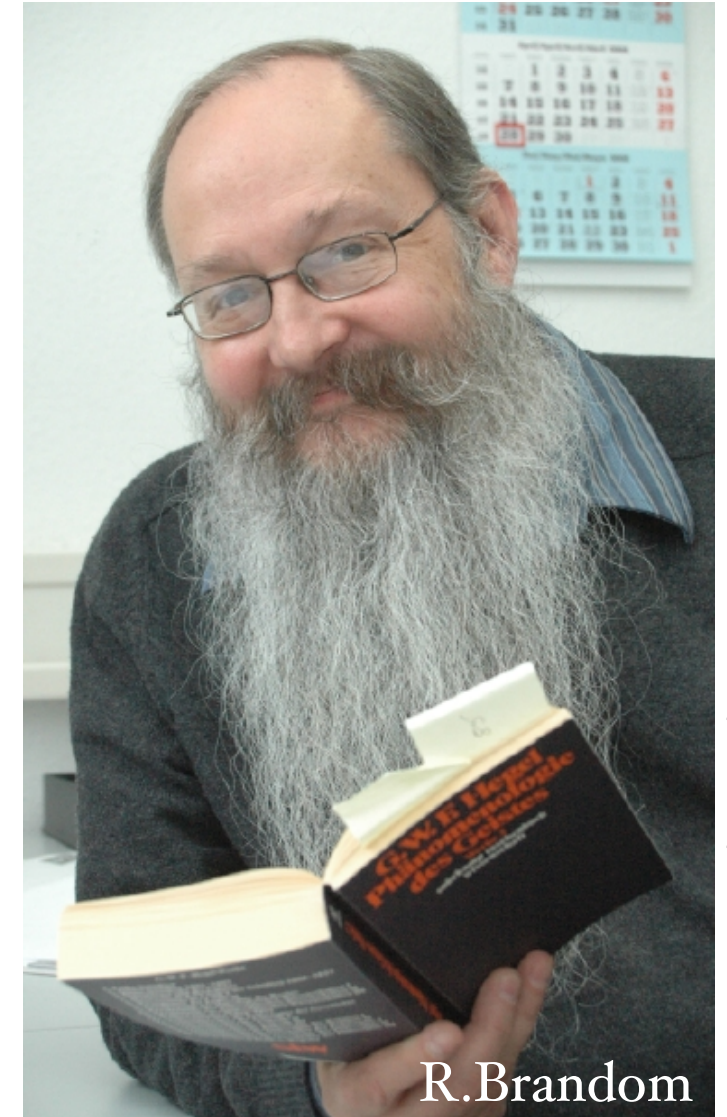
# Appeal to authority



G.W.F. Hegel

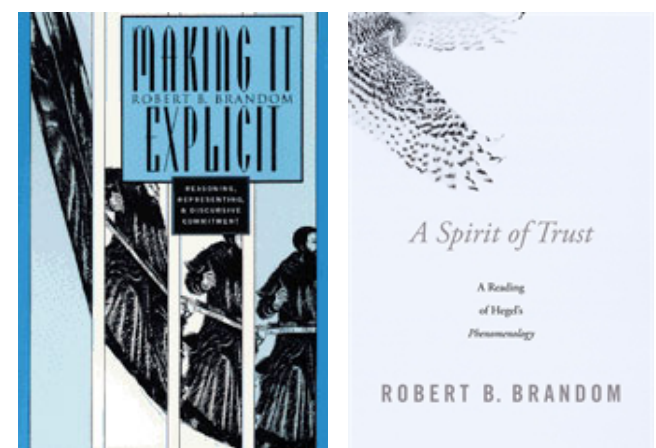
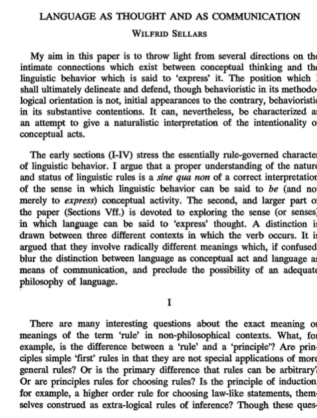
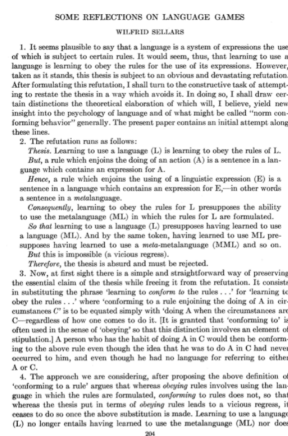


W. Sellars



R. Brandom

<https://sites.pitt.edu/~rbrandom/>





# norm *participation*



*I think it's a hairy  
woodpecker.*

Hm. It's a  
woodpecker, clearly.  
But I think it's a  
downy woodpecker.  
Its beak is pretty  
short.

*Yeah, but I've seen hairy  
woodpeckers with such  
short beaks. But I agree  
it seems pretty small  
overall.*

Let's ask Mary!

# norm *participation*



*This is humanity's best  
invention in the last 5  
years!*

Murder!1! Bill Gates!!  
Remote control!!!@@

# More on accuracy

- If you have a series like 2 4 6 8 10 12 14 ...
- you measure *accuracy* by generating more from the sequence, and measuring how many generated items are correct
- you measure *correctness* by .... well, in this case, an ability to formulate the rule explicitly