Dividnorm Worskhop on Metacognitive Diversity

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Cross-cultural diversity, folk epistemology and metacognition

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Cultural relativism

Cultural relativism is the principle that an individual person's beliefs and activities should be understood by others in terms of that individual's own culture.

Cultural relativism

Ruth Benedict

"No man ever looks at the world with pristine eyes. He sees it edited by a definite set of customs and institutions and ways of thinking. **Even in his philosophical probings he cannot go behind these stereotypes; his very concepts of the true and the false will still have reference to his particular traditional customs.**

Patterns of culture, 1934, 2-3)

Epistemological relativism

Not only

"The **truth** on this side of the **Pyrenees**, error on the other" (Pascal 1669)

(**what is held true** is culture-relative)

But:

Truth itself is a culture-dependent matter

(the standard for what is true is culture-relative)

Caveat

- Epistemic uniformity across cultures would not prove in itself the validity of common standards and concepts.
- Our present goal is to discuss the diversity, rather than the objective validity of epistemic concepts and practices.

Our main question will be:

Is there a relation between conceptual intuitions and predictive practices across cultures?

Overview

1. What is cross-culturally variable in metacognition ?
    1. noetic feelings? (no)
    2. concepts of truth & justification? (no)

2. Why, then, is there diversity in epistemic practices? How to solve the puzzle

Conclusion: Consequences for further investigations

1. Candidates for metacognitive universals: noetic feelings?

- Noetic feelings are relied upon in the control of cognitive actions of two kinds:
  - Urgent decision needed (e.g. noetic feelings guiding conversation)
  - Low-stake goals (e.g. shopping)

Noetic Feelings

Predictive

- cognitive effortfulness
- Familiarity
- knowing
- Tip of the tongue
- Coherence, incoherence

Retrodictive

- Uncertainty about correct performance
- Uncertainty about existing competence
- Feeling of being right

What stays invariant across cultures is what we share with nonhumans

The various human groups have the same basic dispositions to use noetic feelings when they

- Evaluate what they know or don't
- Evaluate what they understand or don't
- Evaluate whether they perceive something clearly or not
- Decide to learn, solve a problem, and when to stop doing so.

What may vary

Disposition to communicate one's own uncertainty or knowledge to others.

This disposition is a matter of:

- Report criterion setting: Goldsmith & Koriat (2008), itself influenced by:
- Context of cognitive tasks
- Non Gricean, local norms for conversing:
  - Ochs-Keenan (1976) for Madagascar
  - Danziger (2010) for Mayan Guatemala

Candidates for metacognitive universals: folk epistemology?

Folk epistemology

- refers to the ordinary, commonsensical, naïve conceptions of knowledge.
- Is plausibly involved in analytic, i.e. concept-based metacognition.
- is assumed to be expressed in **intuitive** decisions concerning the truth or justification of given beliefs.

Domains of folk knowledge/intuitions

- Biology
- Physics
- Numeracy
- Agency
- Morality
- Kinship, sociology
- Mindreading
- Epistemology

Folk epistemological concepts & intuition

- "Intuitions are typically produced very quickly and are preceded by little or no conscious reasoning". (Stich, forthcoming)
- They are associated with a metacognitive experience of self-evidence.
- They have been claimed to have evidential value in epistemology, especially to determine whether or not people actually know or merely think they know.

Nagel (2007, 2011, 2013) versus Stich (2011)

Testing Gettier intuitions

- In a well-known paper, Edmund Gettier presented **counter-examples** to the traditional philosophical definitions of knowledge as justified true belief (Gettier, 1963).
  - Justified: inner perspective on belief formation
  - True: influence of fact (external environment) on belief

- The "Gettier cases" suggested that one may be *justified to believe* that P, where P is a true belief, yet **not really *know* that P.**
- For example, one may be **justified to believe** that it is 2 pm by looking at a city clock, and have **a true belief**, if it is now 2 pm, even though the clock shows this time all day long.
- Yet **one does not know that it is 2pm.**

Testing Gettier

- Stephen Stich and coll. have tested whether culture influences laypersons' intuitions about “Gettier cases”. (Weinberg et al., 2001)
- **Initial finding: there are important cross-cultural variations in the concept of knowledge** : failed to be replicated
- A later study, conducted in four languages, shows that **humans seem to have a roughly similar concept of knowledge**. (Machery et al.2015)

Machery, Stich et al. 2015

- 521 participants in 4 countries: USA, India, Japan, and Brazil.
- Four vignettes presented consecutively in a fixed order:
  - the Gettier/hospital case
  - the clear knowledge case (control)
  - the Gettier/trip case,
  - the false belief case (control)

Gettier/Hospital Case

Paul Jones was worried because it was 10 pm and his wife Mary was not home from work yet. Starting to worry that something might have happened to her, he decided to call some local hospitals to ask whether any patient by the name of "Mary Jones" had been admitted that evening. At the University Hospital, he was told that someone by that name had been admitted with major but not life-threatening injuries following a car crash. As it turned out, the patient at University Hospital was not Paul's wife, but another woman with the same name. In fact, Paul's wife had a heart attack was at that moment receiving treatment for a heart attack in Metropolitan Hospital, a few miles away.

- Does Paul know that Mary is hospitalized? Or does he only feels like he knows but does not?

2 main test questions

"Question *Knowledge 1":*

A binary question: does the protagonist know the relevant proposition**? options "Yes, [s]he knows" and "No, [s]he doesn't know**

"Question *Knowledge 2"*:

Does the Protagonist **know or does s[he] feel like s[he] knows but doesn't actually know** that [relevant proposition]

Discussion

- By and large participants responded similarly to the two Gettier cases.
- Americans, Brazilians, Indians, and Japanese were much more likely to agree with the statement "The protagonist feels like she knows that *p*, but she doesn't actually know that *p*" in the Gettier cases than in a non-Gettier case (64.9% to 94.6%).

Extension of the investigation

- In a further study, data were collected at 26 sites in 23 countries using 18 different languages.

- A substantial majority of participants at each site chose the Gettier intuition response (from 67% to 99%).

Conclusion of the two studies

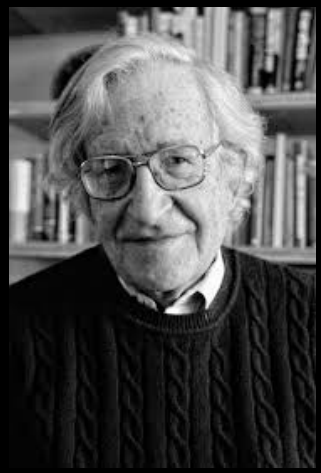
- **people in all cultures** have an epistemic concept that requires more than justification, truth and belief,
- **in most cultures** that concept will be expressed by the epistemic term commonly translated into English as “know”

- What are the mechanisms that explain these common intuitions about knowledge?

Mechanisms of intuitive judgments

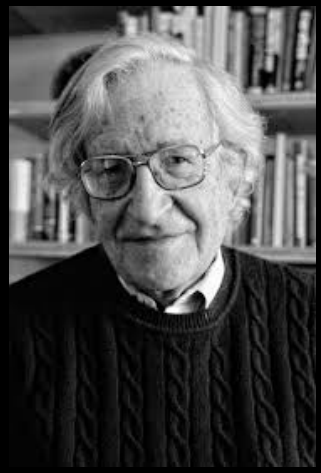
Some see the domain-relative nature of conceptual intuitions to point to an innate basis.

- Universal grammar: Chomsky
- Core folk biology: Carey
- Core folk psychology: Sperber
- Core folk epistemology: Stich



Intuitive beliefs (Sperber, 1997)

- We have intuitive data-base beliefs, which are inscribed in our mind in a manner such that they are automatically treated as data.
- They are expressed **in an intuitive mental lexicon** that allows spontaneous inference.



→ Hypothesis for FE: innate conceptual modules elicit intuitive beliefs, just as innate grammar elicits linguistic intuitions.

Alternative hypothesis

Folk epistemology might emerge from

- Universal informational constraints
- A consensuality effect (Koriat, 2008) based upon fluency (intuitiveness)

Intuitions are metacognitive phenomena

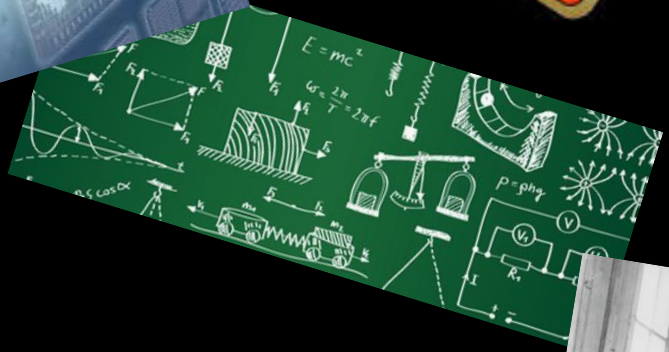
- Intuitions can result from various sources
  - Innate lexicon or innate pattern matching
  - Recurrent cultural patterns in action and communication
    - implicit learning (Betsch & Glöckner, 2010)
    - Repetition (Schwartz, 2004)
  - Experimental priming (Topolinski & Strack, 2009)

Based on this recognition, consider a puzzling dimension of folk-epistemology ../

Granting that humans have

- a similar ability to
  - predict the reliability of the output of their current cognitive activity
  - evaluate when they know or only believe a given proposition
- a similar repertory of folk epistemic concepts

How is the observed variability in the epistemic practices across human groups at all possible?



2 – Diversity in epistemic practices across cultures and social groups

Practices are social

- Metacognition is directed at an individual cognitive system.
- However, recognized methods for reducing uncertainty **are socially inherited.**
  - In contemporary Western societies, probabilistic reasoning focussing on specific evolving subsystems (e.g.,symptoms of flu, price of oil, election prediction)
  - Across all societies, ancient methods have persisted: Pythia ravings, astrology, divination, runes, tarot etc.

Is metacognition absent from irrational practices?

- Does individual metacognition play a role in monitoring divinatory practices as it does in monitoring one's own perception and memory, or others' testimony?

- Is it rather silenced?

Is metacognition absent from irrational practices?

When performing statistics, metacognition is used to monitor (e.g.)

- correction of the figures entered,
- Relevance of the data.

Is divination also monitored for its conditions of accuracy?

◆→ Example of the Benge – the Azande Poison Oracle.

Azande Poison Oracle (Benge) Evans - Pritchard (1937)

- The questioner **proposes a prediction** about a future state of affairs, (or about someone being a witch) and **commands the oracle to kill the foul**.
- The practitioner forces a chicken to swallow the poison (alcanoïd close to strychnine).
- A second corroborative test is used with the corresponding negative prediction, where the oracle is **commanded to spare the foul.**
- The prediction is supposedly correct if the chicken dies or survives as commanded.

Benge in Azande

- Benge has been often used in traditional legal contexts to discover who was responsible for a deed or to establish the innocence of an accused.
- The quantity of poison used is taken to be unrelated to subsequent death or survival of the chicken

- The Benge Is considered to be highly reliable in many different domains (health, fertility, marriage, adultery, witch detection, hunting, agriculture etc.)

- One never starts any important project without first receiving the authorization from the Benge Oracle

Evaluating the Benge

1. For its practitioners, it is an epistemic, truth-conducive method. It is supposed to provide evidence confirming a hypothesis and to suppress uncertainty about a situation.
2. Within the group: the verdict of divination is posited as true beyond doubt, when ritual constraints are fulfilled.
3. For anthropologists: The existence of such a verdict has a social and a psychological utility (Evans-Pritchard himself believes it to be reliable).

Evaluating the Benge

4. From the viewpoint of metacognition studies:

- Practitioners monitor the oracle to make sure that the instruments and the participants fulfill ritualistic constraints.
- They also monitor the relation between question and answer
- They accept the outcome as correct only if the two versions of the test converge.

An anthropologist's account: ALÉTHIC RELATIVISM

Martin Holbraad (2008, 2012)

The Western concept of truth is not universal.

Some cultures have alternative "alethic practices", where the relations of truth with reality are "sui generis".

On a Western view of truth,

- Representations rather than facts are the proper bearers of truth and falsehood.

- Divination is based on an alternative conceptualization of truth— one which does not rely on the idea of representation at all.
- Meanings just are parts of the world
- This is why, in divination, the outcome is **not open to doubt.**

→ Metacognition is irrelevant

Conceptual objections

- Insulating truth from doubt seems prima facie incoherent, just as claiming that truth is not attached to a content of thought.

- Benge includes numerous conditions to be fulfilled for the oracle to be reliable, which indicates that practitioners attribute to it a representational sensitivity to the world.

An alternative cognitive-anthropological account

Anthropologist Maurice Bloch has proposed an alternative account of truth-in-divination based on Zafimaniry epistemic practices (a rural group in Madagascar)

Bloch (2008)

Truth and sight (2008)

For the Zafimaniry, sight is important because it avoids the treacherousness of language used in social life.

- Azandé epistemological practices reflect a similar concern with deceit and lying that is present in most societies around the world.

- They do not have a **different** concept of truth: they rather see **truth as something that must be protected from liars and cheaters**.

Why do irrational practices persist?

The preceding diagnosis suggests how oracular or astrological practices (etc.) can

- **stick** in a culture.
- **be reproduced for centuries.**

- **They elicit convergent noetic feelings e.g.: trust, but also: familiarity, ease of processing, consistency, coherence with other beliefs, & a high informativeness (epistemic monitoring)**
- **They can contribute to conflict regulation (an instrumental function)**

How do people discriminate true from false statements (Schwarz et al.2016)

People evaluate the truth of a statement by multiple easy cues, e.g. by assessing

- its compatibility with other things they believe,
- its internal consistency,
- amount of supporting evidence,
- acceptance by others,
- credibility of the source.

ORACLES also aim to form true predictions

Practitioners usually find the practice to be

- compatible with other things they believe,
- Internally consistent, in their lights
- based on perceptual evidence,
- accepted by others,
- in their lights, a non-biased source of knowledge

Role of fluency feelings in divination

The oracle is

- based on locally accepted concepts and often consulted.
- Taken to be immune from human manipulation
- Easily understood (Death/survival)

Role of fluency feelings in divination

Being fluent, an oracle

- is pleasurable because simple to understand and relevant to important life issues
- seems to be reliable because the fluency of a message tends to be associated with its truth (Reber & Schwarz, 1999)
- Is consensual in a group cognitively homogeneous (Koriat, 2008)

Reliable when properly executed

A source of illusion: "being properly executed" can **intuitively** apply to hypersalient and hyperfluent **social constraints** rather than to constitutive **epistemic requirements**:

- sexual abstinence in the Azandé Poison Oracle
- Equality bias, shown to impair collective epistemic decisions across cultures (Mahmoodi et al., 2015)

(both consensual in the corresponding groups !)

Conclusion

Why similar conceptual intuitions and dissimilar predictive practices across cultures?

Procedural metacognition is applied to widely differing cognitive tasks

- What varies depends on
  - the repertory of **epistemic actions** that are made available to individuals in their social environment.
  - The goals of epistemic actions (e.g. conversation, formal learning)
  - The role and nature of **expertise** available for instigation and feedback
  - The **social norms** applying to performance of epistemic actions

Explaining the disconnection

The disconnection between concepts and practices is not so different from the disconnection also present in moral folk theory and moral decision-making.

This disconnection suggests that practical epistemic decisions rely not on concepts but on context-dependent heuristics.

These heuristics are prone to illusions, and confusions in the norms involved.

If this dissociation between

- feeling-based epistemic practices and decisions and
- verbal justification of knowledge

is correct, then testing subjects from various populations on both dimensions might be an interesting avenue for future cognitive-anthropological research.

Thanks for
your attention !