An English-Chinese cross-linguistic study of some central concepts in epistemology

‘Understanding and making effective use of differences in the judgments and conceptualisations of Asian and Western cultures’
@University of Southampton
June 26, 2019

Jie Gao (with D. Fassio)
Zhejiang University
0. Introduction
The philosophical significance of linguistic data

• **Linguistic data**: syntactical structure, semantics, pragmatics, etymology, frequency of use and learning stage of linguistic expressions

• A better understanding of the structure and functioning of ordinary language could eventually shed lights on the deeper underlying metaphysical level

Examples:

- **Metaphysics**: fundamental classifications (e.g. states, events, processes...)
- **Philosophy of language**: semantic contextualism, relativism...
- **Ethics**: the nature of values (e.g. attributive vs. predicative uses of ‘good’)
- **Epistemology**: epistemic contextualism, subject sensitive invariantism
From English to cross-linguistic studies

• What’s so special about English?

(Universality thesis) the property of the English word ‘X’, related sentences including ‘X’, and related locutions that have been studied by Anglophone philosophy are shared by the standard translations of these expressions in most or all languages.

- This is an empirical question requiring piecemeal investigation.

• Two possible results:

1. Same concept and exhibiting the same linguistic properties in all languages
   ➤ stable metaphysical realities

2. Important differences
   ➤ potential idiosyncratic aspects of a language shedding doubts on the substantive metaphysical relevance of certain notions, or
   ➤ radically divergent conceptual schemes amongst cultures
Towards a more systematic cross-linguistic approach

• Shortcomings of current cross-linguistic studies:
  1. Confined to a narrow set of western languages
  2. Restricted to specific topics
  3. Focus only on narrow clusters of linguistic features—e.g., syntactic structure, semantics, psychological aspects of language learning

• An ambitious project:
  A full comparative study of all the various aspects of ordinary expressions in all languages.
What we do in this talk

• **Subject:** English vs. Chinese, main concepts in Epistemology

• **Methodology:**
  1) Identify central notions in **English** and relevant philosophical debates
  2) Identify **Chinese** translations for those notions
  3) Apply linguistic tests to Chinese notions and compare to the corresponding results in English
  4) Consider **philosophical implications** of cross-linguistic data

• **Novelty of the methodology:**
  Global approach to the discipline
  - Plurality of notions and kinds of evidence: use of linguistic tests, corpuses, etymology... ;
  - Applications to all debates in Epistemology in which linguistic tests have been used.

• **Limits:**
  1) Our analyses are certainly **incomplete** (this is very much a work in progress!)
  2) We mainly rely on **existing analyses**; we do not to add new analyses.
  3) **We left out** X-Phil, pragmatics and linguistic psychology (only for the moment!).
Plan of the talk

I. Knowledge
   1. Kinds of knowledge
   2. The function of the concept of knowledge
   3. Is knowledge a state?
   4. Epistemic contextualism

II. Belief and other doxastic attitudes
   1. Varieties of doxastic attitudes
   2. Is belief weak?

III. Epistemic appraisals
     Evidentials
I. Knowledge
1. Kinds of knowledge

<table>
<thead>
<tr>
<th></th>
<th>English verb</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Know that</strong></td>
<td>know that</td>
<td>知道 zhidao, 了解 liaojie (?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>了解到 liaojiedao</td>
</tr>
<tr>
<td><strong>Know how</strong></td>
<td>know how</td>
<td>会 hui, 知道怎么 zhidao zenme,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>etc.</td>
</tr>
<tr>
<td><strong>Aquaintance</strong></td>
<td>know X</td>
<td>认识 renshi, 了解 liaojie (?)</td>
</tr>
</tbody>
</table>
1. Kinds of knowledge

**Know that:**

- 知道 zhidao:
  1. It can take nouns, verbs, adjective, and sentence objects.
  2. The verb zhidao is immediately followed by the object (e.g. a sentence). Chinese doesn’t have anything like a ‘that’-clause.
  3. Stative verb, same as ‘know’; but **even more stative**! It does not have imperative usage and corresponding construction of ‘decide to know’.
1. Kinds of knowledge

Know that:

• 了解 liaojie:
  1. It takes **only noun objects** where sometimes the content can be **expressed by a list of propositions**, such as 情况 qingkuang (situation), 要求 yaoqiu (requirement), 诉求 suqiu (plea).
  2. **Not just a stative verb**, it can also express a process of obtaining information and asking question, e.g. 了解一下 liaojie yixia, 一下 yixia indicates an attempt or an act.

• 了解到 liaojiedao:
  1. It can take **propositions**
  2. **Stative** verb, it cannot express a process of obtaining information and asking question
1. Kinds of knowledge

*Know how:*

• 会 hui:
  1. More common for expressing acquired abilities.
  2. In cases of skill, it expresses being able to do in an appropriate and good way.

• 能 neng:
  1. More used for innate abilities.
  2. In cases of skill, it expresses the quantity of the activity one is able to do.
  3. It can express ‘regain some ability’ and ‘efficacy’.

• 知道怎么 zhidao zenme:
  literally corresponds to ‘know-how’, but “somewhat odd” (Tsia & Lien 2018: 270)

Note: This is no decisive evidence against intellectualism about know-how.
1. Kinds of knowledge

**Acquaintance:**

- **认识 renshi:** being able to distinguish/recognize/be familiar with someone, some place, something.
- **了解 liaojie:** know well some person, country, subject.... “It means to know more widely and deeply than zhidao” (Arakawa & Mizumoto 2018: 60).

**Notes:**
- The type of acquaintance required by ‘liaojie’ is much deeper than ‘renshi’.
- When referred to people, ‘liaojie’ entails ‘renshi’.
2. The function of the concept of knowledge

Three hypotheses advanced by philosophers on the primary function of ‘know that’:

1. Identification of trustworthy informants, flag approved sources of information. (Craig, Hannon)
2. Detection, discovery and retention of truths, closely connected to predicting others’ behavior and guiding decision-making. (Turri)
3. Knowledge as a quasi-perceptual state. (Sylvan (?))

An hypothesis: a study of the historical origins/etymology of the verb may reveal clues about which of these functions of the concept is more fundamental. (note: merely defeasible evidence)
2. The function of the concept of knowledge

• Etymology of English verb ‘to know’:
Old English *cnāwan* (earlier *gecnāwan*) ‘recognize, identify’, of Germanic origin; from an Indo-European root shared by Latin *(g)noscere*, Greek *gignōskein*. 
2. The function of the concept of knowledge

- 知 zhi: 1) realize, be aware; 2) inform, notify, tell (通知); 3) perceive, comprehend (知觉).

  **Ideographically**, 知 represents arrow (left side) coming out from mouth (right side).

  1) Passing on the experience of hunting and fighting in wars.
  2) “Known things comes out from the mouth of the knower as quickly as an arrow, with no hesitation”. (Yucai Duan, linguistic@Qing Dynasty)

**Ancient meanings:**
1) (v.) talking and passing on experience of hunting;
2) (n.) experience, common knowledge, truth;
3) (v.) comprehend, perceive, understand (as in zhidao)

- 道 dao = a suffix added in Tang dynasty

**Conclusion:** The ancient meaning and ideogram of zhi seems to support all three views about the function of knowledge. However, the primary meaning is related to testimony.
3. Is knowledge a state?

English:
• ‘knows’: stative verb (one already possesses information), but can explain a bounded event or activity.

“As soon as I saw him, I knew that there was something wrong.”

(‘knew’ refers to an ‘event’—to the beginning of a state)

Chinese:
• 知道 zhidao, 认识 renshi and 了解 liaojie are all stative verbs.
• Liaojie and renshi can easily be changed into expressing an event or activity.
• 知道 zhidao has even **less strength of activity implication than ‘know’**, for i) the former doesn’t even admit imperative forms such as “know yourself!” and ii) doesn’t admit constructions such as “decide to know”. (A&M, 2018)
3. Is knowledge a state?

Chrisman (2012) provides abundant linguistic evidence that, in an adequate semantic analysis, knowledge and belief attributions should be classified aspectually as **state descriptions**.

*Dynamically Test*: the availability of the progressive form (-ing) in English is a marker for occurrences as opposed to states.

a. He is shooting the arrow with skill. (process)
b. He is building the house. (development)
c. He is winning the race. (punctual occurrence)
d. (?) He is being tall. (state)
e. (?) He is believing that p.
f. (?) He is knowing that p.
3. Is knowledge a state?

Philosophical significance:

1. Against non-stative approaches to knowledge, such as Sosa’s view that beliefs and knowledge are a kind of performance.
   Performances are different from states: the former are by their nature active and changing, while the latter are passive and unchanging.

2. Doxastic voluntarism and the ethics of belief.
3. Is knowledge a state?

Chinese:
• 知道 zhidao, 认识 renshi and 了解 liaojie are all stative verbs
• Liaojie and renshi can easily be changed into expressing an event or activity
• 知道 zhidao has even less strength of activity implication than ‘know’, for i) the former doesn’t even admit imperative forms such as “know yourself!” and ii) doesn’t admit constructions such as “decide to know”. (A&M, 2018)

Dynamicity Test of zhidao and xiangxin (believe):
• (?) 他在知道明天会下雨 “Ta zai zhidao mingtian hui xiayu” (He is knowing that tomorrow is going to rain).
• (?) 他在相信明天会下雨 “Ta zai xiangxin mingtian hui xiayu” (He is believing that tomorrow is going to rain).
4. Epistemic contextualism

(Epistemic Contextualism) The semantic content of propositional knowledge attributions (e.g., ‘S knows that p’) can vary with the context of utterance.

• Is ‘to know’ context-sensitive in a way similar to ‘to be tall’ or ‘to be flat’?
Stanley (2005) shows that ‘to know’ doesn’t pass standard tests for gradability used by linguists.

• What about the Chinese corresponding translation of ‘to know’?
1. Zhidao is the standard verb used to translate propositional knowledge;
2. Liaojie cannot take sentences as its object, but can translate knowledge in a propositional sense.
4. Epistemic contextualism

Zhidao:

Test 1: Allowing degree modifiers such as ‘really’ and ‘very’/ ‘very much’/ ‘very well’

(E1^{FLAT}a) That is **really** flat.

(E1^{KNOW}a) (?) He knows that it’s Sunday, but he doesn’t **really** know that it’s Sunday.

(C1^{ZHIDAO}a) (?) 他知道今天是星期天，但不是的确/果真知道今天是星期天。Ta zhidao jintian shi xingqitian, dan bushi **dique/guozhen** zhidao jintian shi xingqitian.

(E1^{FLAT}b) That is **very** flat,

(E1^{KNOW}b) (?) He **very much** knows that it’s Sunday.

(C1^{ZHIDAO}b) (?) 他非常知道今天是星期天。Ta **feichang** zhidao jintian shi xingqitian.
4. Epistemic contextualism

(E1\text{\textsc{\textsc{KNOW}}}c) He knows \textbf{very well} that it’s Sunday.

(C1\text{\textsc{\textsc{ZHIDAO}}}c) 他清楚地知道今天是星期天 “Ta qingchude zhidao jintian shi xinqitian”.

‘清楚地’ also corresponds to ‘clearly’ and ‘exactly’. These seem to be modifiers of the content of knowledge, not the state. The felicity of (C1\text{\textsc{\textsc{ZHIDAO}}}c) isn’t a clue of the gradibility of ‘zhidao’.
Test 2: Allowing comparative construction

(E2_{FLAT}) The Netherlands are flatter than Belgium
(E2_{KNOW}) (?) Marc knows that it’s Sunday better than Mary.
(C2_{ZHIDAO}) 马克比玛丽更知道今天是星期天 make bi mali gengzhidao jintian shi xingqitian.

Note: Chinese expression of ‘know better than before’ is common, but such expressions seem to be idiomatic.

Are all uses of ‘gengzhidao’ idiomatic?
4. Epistemic contextualism

Liaojie:

1. Acquaintance use of ‘liaojie’ is **gradable**:

   \[ (C4_{\text{LIAOJIE}}) \text{ 我非常/很了解他 wo feichang/hen liaojie ta. (I know him very well.)} \]

   \[ (C5_{\text{LIAOJIE}}) \text{ 我比你更了解他 wo bi ni geng liaojie ta. (I know him more than you do.)} \]

2. With **noun objects** where sometimes the content can be expressed by a list of propositions, also **gradable**:

   \[ (C6_{\text{LIAOJIE}}) \text{ 我比你更了解情况. “wo bi ni geng liaojie qingkuang” (I know the situation better than you do.)} \]

Liaojiedao:

It can take sentences, and thus expresses propositional knowledge. But ‘liaojiedao’ is clearly **not gradable**.
4. Epistemic contextualism

Tentative conclusions about data relative to epistemic contextualism:

i) The absence of gradability seems to be a property of propositional knowledge ascriptions, regardless of the verb used to express it (zhidao, liaojie, liaojiedao).

ii) Differently from ‘know’, zhidao seem to pass the gradability test 2. However, need further investigation.
II. Belief and other doxastic attitudes
1. Varieties of doxastic attitudes

Binary belief:

• ‘belief/believe’: 信念 xinnian/相信 xiangxin

• ‘think’: 认为 renwei, 以为 yiwei, 觉得 juede.
1. Varieties of doxastic attitudes

Partial belief/credence:
Technical notion, in English there is not an exact word for it.

- ‘confidence/confident’: can also be used to express binary belief or an epistemic position stronger than mere belief, such as firmly believing, being certain.

  信心 xinxin/有信心 youxinxin

- In order to express a doxastic attitude falling short of full belief, normally we use ‘probably’/’might’/’likely’, which modify assertions.

  或许huoxu, 也许yexu, 可能keneng, 大概dagai, etc.

- 信 (xin) is the root for both believe (相信 xiangxin)/belief (信念 xinnian) and confident (有信心 )/confidence (信心 xinxin).

- Etymology: the ideographical meaning of 信 is making a promise and swearing.
1. Varieties of doxastic attitudes

Certainty:

- being certain/ being sure: 确定 queding, 确信 quexin, 肯定 kending, 无疑 wuyi
2. Is belief weak?

Hawthorne et al. (2016): the ordinary concept of belief involves very low evidential standards, so low that merely thinking that a proposition is likely may entitle one to believe it.

(1) ?? It’s raining but I don’t know it’s raining.
(2) ?? It’s raining but I am not sure it’s raining.

(3) I believe it is raining, but I’m not sure it’s raining.
(4) I believe it’s raining but I know it might not be.

(5) ?? It’s raining but I know it might not be.

(6) I believe that my lottery ticket in a fair one thousand tickets lottery will not win.

(7) ?? John thinks that/is of the opinion that/is confident that it will rain but he doesn’t believe that it will.
2. Is belief weak?

(1) ?? It’s raining but I don’t know it’s raining.
(1°) ?? 在下雨，但是我不知道在下雨
(2) ?? It’s raining but I am not sure it’s raining.
(2°) ?? 在下雨，但是我不确定在下雨
(3) I believe it is raining, but I’m not sure it’s raining.
(3°) 我相信在下雨，但是我不确定
(4) I believe it’s raining but I know it might not be.
(4°) 我相信在下雨，但是我知道可能没下雨
(5) It’s raining but I know it might not be.
(5°) 在下雨，但是我知道可能没下雨
(6) I believe that my lottery ticket in a fair one thousand tickets lottery will not win.
(6°) 我相信有千分之一可能性会中奖的我的彩票不会中奖
(7) ?? John thinks that/is of the opinion that/is confident that it will rain but he doesn’t believe that it will.
(7°) ?? 约翰觉得/认为/自信会下雨但是他不相信会下雨
2. Is belief weak?

(Neg-raising) The negation is interpreted, not as negating the attitude, but its content. e.g. one doesn’t believe p often suggests that one also believes that not-p

John doesn’t believe that Real Madrid will win

\[ \downarrow \]

*Normally interpreted as*

\[ \downarrow \]

John believes that Real Madrid will not win

This phenomenon is typical of weak mental states in general.
2. Is belief weak?

<table>
<thead>
<tr>
<th>English verb</th>
<th>Neg-raising</th>
<th>Chinese verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>believe</td>
<td>✓</td>
<td>相信 xiangxin</td>
</tr>
<tr>
<td>think</td>
<td>✓</td>
<td>觉得 juede</td>
</tr>
<tr>
<td>being of the opinion</td>
<td>✓</td>
<td>认为 renwei</td>
</tr>
<tr>
<td>know</td>
<td>✗</td>
<td>知道 zhidao</td>
</tr>
<tr>
<td>being certain</td>
<td>✗</td>
<td>确定 queding</td>
</tr>
<tr>
<td>being sure</td>
<td>✗</td>
<td>肯定 kending</td>
</tr>
<tr>
<td>want</td>
<td>✓</td>
<td>想要 xiangyao</td>
</tr>
<tr>
<td>like</td>
<td>✓</td>
<td>喜欢 xihuan</td>
</tr>
<tr>
<td>need</td>
<td>✗</td>
<td>需要 xuyao</td>
</tr>
<tr>
<td>love</td>
<td>✗</td>
<td>爱 ai</td>
</tr>
<tr>
<td>advise</td>
<td>✓</td>
<td>建议 jianyi</td>
</tr>
<tr>
<td>recommend</td>
<td>✓</td>
<td>推荐 tuijian</td>
</tr>
<tr>
<td>demand</td>
<td>✗</td>
<td>要求 yaoqiu</td>
</tr>
<tr>
<td>order</td>
<td>✗</td>
<td>命令 mingling</td>
</tr>
</tbody>
</table>
III. Epistemic appraisals
Where to look for epistemic appraisals?

- Technical terminology typically used in philosophy to denote epistemic appraisals:
  - ‘doxastic justification’
  - ‘epistemic warrant’
  - ‘theoretical rationality’

- ‘Justified belief’ does not have a non-technical translation in ordinary Chinese. There have been various translations of the term, e.g. 確证的信念, 有的理由支持的信念, 得到辯護的信念
Evidentials

• “[i]n many languages, justification is tracked by (certain types) of evidentials” (Matthewson & Glougie 2018: 149).

• Evidentials are grammatical elements in a language that encode information about the evidence that a speaker has in support of a certain statement. (Aikhenvald 2004)
  ✓ source of information (perception, testimony, inference...)
  ✓ degrees of reliability or certainty

• Question: Are such epistemic factors (source of information and degrees of reliability or certainty) tracked in parallel ways by evidentials across different languages?
Evidentials

• **Morphological evidentials**: the source of information are always expressed by adding affixes to certain type of words. (Grammatically **obligatory**)
  e.g. Makah, Japanese and Kwakiutl

• **Lexical evidentials**: not grammartically **obligatory**
  e.g. European languages, Chinese

Lexical markers:
  ▪ modal verbs (e.g., must, may),
  ▪ adverbial markers (e.g., reportedly, allegedly, obviously)
  ▪ phrases (e.g., it seems/looks like/appears/turns out/is said that, I think/see/conclude that, as I can see, as far as I understand)
Evidentials

• Ranking of reliability of different information sources:

1. Common and culturally shared knowledge, personal experience (visual testimony, memory, inner experience): don’t need qualifications and admits of adverbial markers such as ‘actually’.

2. Auditory, tactile, reported evidence (hearsay, direct specific quote): admits ‘it appears that’ or ‘it is said that, and so on.

3. Inference from indirect evidence: usually flagged by modals such as ‘must’.
Evidentials

*Chinese verbs used as evidentials:*

- **Verbs of cognition:** 聽見Tīngjiàn (hear), 认为rènwéi (think), 感到gǎndào (feel), 推测tuīcè/揣测 chuǎicè (speculate), 以为yǐwéi (think)
- **Verbal reportatives:** 说shuō (say), 听说tingshuo (be told)
- **Verbal sensories:** 看到kandao (see), 显得xiande (appear)
- **Perlocutionary verbs:** 通知Tōngzhī (notice), 嘱咐zhǔfù/发誓fāshì (swear), 指出zhǐchū (point out), 声明shēngmíng (declare)
Evidentials

**Chinese auxiliary words used as evidentials:**

- **Modal verbs:** 会Huì (can), 应该yīnggāi (should), 可能keneng (may, it’s possible that), 一定yiding (must)
- **Modal particles:** the modal particle 吧 (ba) (sometimes it expresses the idea of uncertainty and guess of information).
- **Modal adverbs:**
  - **Inference:** 一定Yīdìng (certainly), 绝对juéduì (absolutely), 肯定kěndìng (surely), 必须bìxū (necessarily)
  - **High-reliability:** actually: 事实上 shishishang, 实际上shijishang, 其实qishi, 实则shize
  - **Report:** 据报道jubaodao/据说Jùshuō/传说chuanshuo/传闻 chuanwen (reportedly), 据闻juwen/据称Jùchēng (allegedly), 据信juxin (‘believedly’), 明显Míngxiǎn (obviously), 传言 chuanyan/谣传yaochuan/外传waichuan (‘rumoredly’)
  - **Sensory:** seemingly: 好似haosi, 俨然yanran, 恍如huangru, 恍若huangruo; appearingly: 看来kanlai, 看似kansi, 显得xiande; 疑似yixi (suspectedly); 听来tinglai (sound like)
Evidentials

Nouns: 可能Kěnéng (possibility)

Phrases: 看起来Kàn qǐlái (it seems/appears that), 它看起来像那样tā kàn qǐlái xiàng nàyàng (it looks like that), 事实证明shìshí zhèngmíng (it turns out that), 我的结论是wǒ de jiélùn shì (I conclude that), 据我所理解jù wǒ suǒ lǐjiě (as far as I understand)
Comparative studies in English and Chinese evidentials

**Universalities:**

**Differences in academic writings:**
- Frequency of evidential use: English > Chinese
  - Verbal evidentials in academic papers: Cui & Cheng (2014)
  - Book reviews: Lai (2017)
  - Linguistic papers: Shui & Ji (2015)

A possible explanation (Shui & Ji 2015):
Difference in directness of expression: English > Chinese
Comparative studies in English and Chinese evidentials


• **Reporting verbs** (‘argue’, ‘suggest’, ‘claim’): **English > Chinese**

• **Factive verbs** (‘show’, ‘demonstrate’, ‘find’) — high reliability: **English (39%) > Chinese (25%)**

• **Non-factive verbs** (‘think’) — lower reliability and commitment: **Chinese (40%) > English (12%)**

• **Belief evidentials** (‘our finding’, ‘in my view’): **English > Chinese**

• **Credibility evidentials** (‘may’, ‘might’): **English > Chinese**

Eng: Author-responsible vs. Chi: Reader-responsible
Comparative studies in English and Chinese evidentials


<table>
<thead>
<tr>
<th>Western</th>
<th>Eastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>Intuitive</td>
</tr>
<tr>
<td>Logical</td>
<td>Holistic</td>
</tr>
<tr>
<td>Analytical</td>
<td>Dialectical</td>
</tr>
<tr>
<td>Extroverted (external world oriented)</td>
<td>Introverted (internal oriented)</td>
</tr>
<tr>
<td>Interaction and consultation</td>
<td>Objectivity and authority</td>
</tr>
</tbody>
</table>

- Task for future studies: How ordinary speakers use evidentials
Thank you!