Philosophy of Logics

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IV Logic in Ancient China

n **An Introduction to Ancient Chinese Logic Thoughts**

n ------Language, Philosophy and Thinking Method

Contents

n 1. **Some characteristics** of ancient Chinese language.

n 2. Special thinking methods by **three main philosophical schools** in ancient China.

n 3. **Achievements** of ancient Chinese logic thoughts.

n 4. **Remarks** .

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1. Some characteristics of ancient Chinese language

a. **Pictographic** derivation of written Chinese

b. **Grammar** properties.

c. Language influences to philosophy and **thinking method**

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1) No alphabet, only character unit with structural components

Sun	日
Moon	月
Water	水
Fire	火
Tree	木
Metal	金
Earth	土

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other ways to form or create a new character

晶	Brilliant/crystal	明	Bright/morning
淼	Flood/broad	林	Forest
炎	Hot/heat	焚	Burn/burning
口	Mouth	曰	Speak

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2) Separated written and phonetic systems

character	pronunciation	character	pronunciation
日	" rì "	晶	" jīn "
水	" shuǐ "	淼	"miǎo"
木	" mù"	林	"lín"

1）Name-centered language

No grammatical transformation for words

no article,

Less prepositions, conjunctions, and relative pronouns

Noun: without gender, no plural form,

Verb: no clear transitive or intransitive division

no tense, no mood

2) Flexible sentence structure

Sentence structure decided by the order of the words,

No copula, no clear subject or predicate

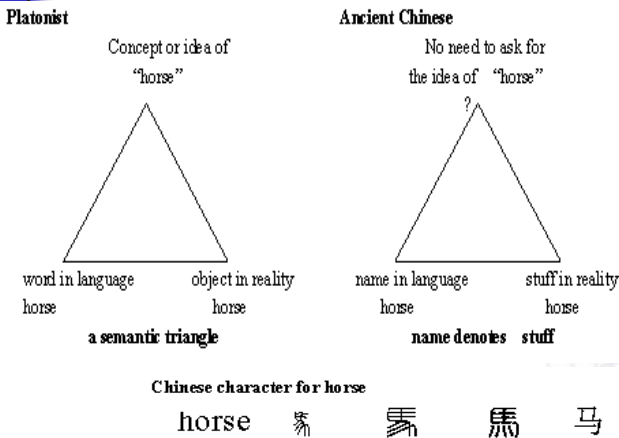Linguistic thought focused on names

Topic-comment structure

1) Mass noun and whole-part questions

No obsession with abstraction, universals

Mass noun syntax (applies to the much-little dichotomy)

An extensive difference in "metaphysical" orientation------ part-whole dichotomy
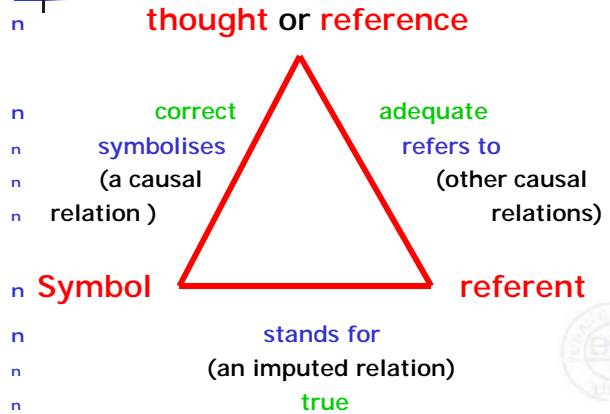
The absence of Platonism

1) No copula: to be or not to be?

Mass-noun-like syntax motivates an implicit "substance ontology" as opposed to western "physical object ontology"

Names are just used to denote real stuffs.

Ancient Chinese philosophers inclined to be nominalists, and cared more about the practical usages of its language

Chinese words for 'horse'

Semantic triangle

Platonist

Concept or idea of "horse"

word in language   object in reality
horse   horse

a semantic triangle

Ancient Chinese

No need to ask for the idea of "horse"

?

name in language   stuff in reality
horse   horse

name denotes stuff

Chinese character for horse

horse 骉 骉 馬 马

diagram

n   **thought** or **reference**

n   correct   adequate
n   symbolises   refers to
n   (a causal   (other causal
n   relation)   relations)

n **Symbol**   **referent**

n   stands for
n   (an imputed relation)
n   true

3) Economic grammar: difficult to be formalized

Difficult to use variables

Did Chinese developed a different Logic?

To think like Chinese: non-deductive and non-logical

Other voices: rational and analytical

1. Special thinking methods by three main philosophical schools

a. **Taoism**：Theory of a linguistic criticizer

b. **Confucianism**：Rectifying names to govern people

c. **Mohism**：Rectifying names to regularize disputations

History backgrouds

Pre-Qin period : 2100-221BC

"Spring and Autumn, Warring States Period": ca.771-221BC

Ethical confusions in various social segments

"**A hundred schools of thoughts contending**" :

Taoism, Confucianism, Mohism, the Yin-Yang school, the school of names, Legalism, Militarism, the school of agriculture

《老子》/《道德经》

n 道可道，非常道；名可名，非常名

Confucius (551BC--479BC) and *The Analects*

Rectifying names. . . . If names are not rectified then language will not flow. If language does not flow, then affairs cannot be completed. If affairs are not completed, ritual and music will not flourish. If ritual and music do not flourish, punishments and penalties will miss their mark. When punishments and penalties miss their mark, people lack the wherewithal to control hand and foot. Hence a gentleman's words must be acceptable to vocalize and his language must be acceptable as action.

To be a superior man--- chun-tzu

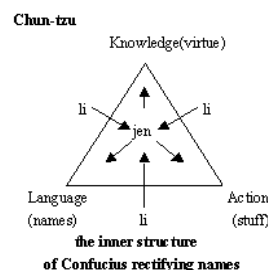"a **chun-tzu** must possess '**jen**'(humanity)", wisdom and courage.

The basic way to practise jen in social life is **rectifying names**

jen was the **denial of self** and response to the right and proper("li")

Lao-tzu(?600-200BC) and *Daode Jing*

"**No dao**(guide) that can **dao**(guide) is a constant **dao**(guide), any **ming**(name) that can **ming** (name) is not a constant **ming** (name)".

Tao: the way of ultimate reality, the source of creation, similar to western "**the absolute**"

"**to be one with Tao**": do nothing, non-action, not act deliberately or purposefully

Abandon knowledge

n 1) **Names** ;   2) Distinctions;

n 3) Desires;

n 4) Specific moral virtues;

n 5) Learning, cleverness, knowledge and wisdom, and sageliness,

n 6) **Action** caused by 1-5

n Zhuang-tzu(ca. 360BC):

n In pursuit of dao we daily forget!

正名

n "名不正则言不顺，言不顺则事不成，事不成则礼乐不兴，礼乐不兴则刑罚不中，刑罚不中则民无所措手足。故君子名之必可言也，言之必可行也。君子于其言，无所苟而已矣！" 《论语·子路》

n "君君、臣臣、父父、子子。" 《论语·颜渊》

Rectifying names

Language-object relation

Language-action relation

A political and moral matter

Family: minimum society unit

Ruler acts as ruler,

minister acts as minister,

father acts as father,

son acts as son

Chun-tzu

Knowledge(virtue)

li   li

jen

Language   Action
(names)   li   (stuff)

the inner structure
of Confucius rectifying names

Mo-tzu (ca. 470-391 B.C.) and *Mo-tzu*

"now **a blind man** said, '**ju**'(a kind of white thing in Chinese) is white, '**qian**' (a kind of black thing) is black, even a man with bright eyes can not refute it, but if put the white thing and the black together and let him to pick one out, then he won't know. So I said that, **the blind man don't know the black and the white, not for its name, but for its picking.** "

墨子·贵义

n 《墨子·贵义》：

n 今瞽曰，矩者白也，黔者黑也，虽明目无以易之，兼白黑使其瞽取焉，不能知也。故我曰：瞽不知黑白也者，非以其名也，以其取也。

Mohism: similar to western tradition

Advocate "universal love" as opposed to "graded love".

Complete uniformity of ethical code.

Three standards of language:

ancient Sage Kings,"eyes and ears",

maximization of general utility.

Focus on "Pien": to distinct between what is and what is not

The fate of Mohism

During the Han Dynasty(206B.C-220 A.D), Confucianism became the orthodox school of thought,

The ruling class rejected and banned the other schools, Mohist is extinct gradually ,

Its status was substituted by Buddhism, which was imported into China at 60 A.D.

3. Achievements of ancient Chinese logic thoughts

Chinese logic can ran parallel to Greek logic and Indian logic:

a. Paradoxes

b. The theory of rectifying names

c. The logic of Mohist canons

Example for paradoxes (1)

To say "there is no winner in disputation" **necessarily does not map on to it. Explained by disputation(distinguishing). (Canon II:35)**

If that which is said is not the same, then it is different. If the same, then it is one man's calling it "pup" and the other "dog", or if different it is one's calling it "ox" and the other "horse". Neither's winning is failure to engage in disputation. Disputation is when one says "it is this" and the other "it is not", and the one which maps on to it wins. (Explanation II: 35)

辩无胜

n 《经下》："谓'辩无胜'，必不当，说在辩。"

n 《经说下》："谓，所谓非同也，则异也。同则或谓之狗，其或谓之犬也。异则或谓之牛，其或谓之马也。俱无胜，是不辩也。辩也者，或谓之是，或谓之非，当者胜也。"

Example for paradoxes (2)

To take all language as perverse **is perverse. Explained by language. (Canon II:71)**

"Perverse" is "inadmissible", if this person's language is admissible, it is not perverse, then there is acceptable (language). If this person's language is inadmissible; on examination it necessarily does not map (Explanation II:71)

言尽悖

n 《经下》："以言为尽悖，悖。说在其言"。

n 《经说下》："以悖，不可也。之人之言可，是不悖，则是有可也；之人之言不可，以当，必不审。"

Example for paradoxes (3)

That which denies denials is perverse, the explanation is in "not denying." (**Canon II:79**)

If he does not deny his own denial, he has not denied denial. Denials can be denied, then this is not denying denials. (**Explanation II:79**)

非诽者悖

n 《经下》"非诽者悖，说在弗非。"

《经说下》："非诽，非己之诽也。不非诽，非可诽也。不可非也，是不非诽也。"

Gungsun Long: white horse not horse

O. Is it admissible that white-horse is not-horse?

S. It is admissible.

O. Why?

S. "Horse" is used to name "**shape**"; "white" is used to name **color**. What names color is not what names shape. Therefore, I say white-horse is not horse.

白马非马

n "白马非马，可乎？"

n 曰："可。"

n 曰："何哉？"

n 曰："马者，所以命形也；白者，所以命色也。命色者非命形也，故曰'白马非马'。"

Different interpretations

Feng Yulan's platonic analysis:

white-horseness is not horseness

One name one thing analysis:

white-horse-stuff is not horse-stuff

Mohist analysis of compound terms:

names may designate stuffs of varying generality.

Xun-tzu : name is conventional

The certainty or definite expression of language

The origin of names, the various methods to create new names, the standards to use names correctly, etc

Xun-tzu : names have no correctness of their own, the correctness is given by convention.

Neo-Mohist: the principle of rectifying names

You can "that" this if and only if you both "that" this and "this" that. Explained by : their being different. (**Canon II: 68**)

For those who rectify names, it is admissible to "that" this and to "this" that. "That-ing" that stays confined to that; "this-ing" this stays confined to this (and) "that-ing" this is not admissible. When about to "this" that, it is likewise admissible to "that" this. If "that" and "this" stay confined to that and this, and accepting this condition you "that" this, then "this" is likewise about to be used for that. (**Explanation II: 68**)

正名者：彼、此。

- 《经下》：彼彼此此，与彼此同，说在异。
- 《经说上》：正名者：彼、此。彼、此，可；彼彼止于彼，此此止于此；彼、此，不可；彼且此也，此亦可彼。彼此止于彼此。若是则彼此也，彼彼亦此此也。

Mohist Canon: the purpose of Pien

The **purpose of dialectics** (pien) is

  to **clarify** the distinction between right and wrong (shi-fei),

  inquire into to the successions of good government and misrule,

  clarify points of sameness and difference and scrutinize the ordering of names and objects.

It **settles** benefit and harm,

  resolves doubts and difficulties,

  explores the facts (jan) about the myriad things,

  and **considers** how various kinds of utterance compare with each other.

辩

- 《小取》夫辩者，将以明是非之分，审治乱之纪，明同异之处，察名实之理，处利害，决嫌疑焉。

Mohist Canon: the ways of Pien

We refer to objects by means of **names**, convey ideas by means of **phrases**, present reasons by means of **explanations**, and accept and propose by means of **similarity**. What is present in one's own case is not to be rejected in the other man's; what is absent from one's own case is not to be required of other man's.

以名举实

- 以名举实，以辞抒意，以说出故，以类取，以类予。有诸己不非诸人，无诸己不求诸人。

Mohist Canon:
similar to the law of non-contradictory

Pen (**disputation, distinguishing**) is contending over converses, winning in disputation is mapping onto it. (**Canon I:74**)

One calling it "**ox**", and the other "**non-ox**" is contending over converses. Such being the case they do not both map onto (it) and if they do not map onto (it), necessarily one of them does not map onto it. (not mapping : like its being dog.) (**Explanation I:74**)

争彼

- 《经上》："辩，争彼也。辩胜，当也。"
- 《经说上》："辩：或谓之牛，或谓之非牛，是争彼也，是不俱当，不俱当，必或不当，不当若犬。"

Mohist Canon:
similar to the law of Excluded Middle

- **Pi** (converse): It is inadmissible to treat both sides as inadmissible.(**Canon I: 73**)
- All oxen and non-oxen marked off as a group are two sides. There is nothing to justify "that is not one." (**Explanation I : 73**)

不可兩不可

n (攸)*{反}，不可兩不可也。

n 凡牛，樞非牛，兩也。無以非也。

Forms for inferences and using terms

. **"Applying"** is imposing a certain standard.

. **"Illustrating"** is referring to some other thing for the purpose of clarification.

. **"Matching"** is comparing sentences and developing them together.

. **"Adducing"** is saying "if it is so in your case, why should it not be so in mine too?"

. **"Inferring"** is using what is the same in something which he refuses to accept and in something he does accept, in order to propose the former.

辟侔援推

n 效也者，為之法也。

n 辟也者，舉也物而以明之。

n 侔也者，比辭而俱行也。

n 援也者，曰「子然我奚獨不可以然」也。

n 推也者，以其所不取之同於其所取者，予之也。

Killing thief is not killing man (1)

A **robber-man** is a man, but abounding in robbers is not abounding in men; being without robbers is not being without men. How shall we make this clear? Hating its abounding in robbers is not hating its abounding in men. Wishing to be without robbers is not wishing to be without men.

盜人

n 盜人人也，多盜非多人也，無盜非無人也。

n 奚以明之？惡多盜非惡多人也，欲無盜非欲無人也。

Killing thief is not killing man (2)

although a robber-man is a man, loving robbers is not loving man. Not loving robbers is not not loving men. **Killing robber-men is not killing men**. The latter claims are analogous to the former; the world does not think itself wrong to hold the former, but thinks the Mohist wrong for holding the latter. ......These then are shih (thus) and yet not so (pu-jan)

殺盜人非殺人

n 雖盜人人也，愛盜非愛人也，不愛盜非不愛人也，殺盜人非殺人也，無難矣。此與彼同類，世有彼而不自非也，墨者有此而非之。無也故焉，所謂內膠外閉與？[不毋空乎內，膠而不解也。] 此乃是而不然者也。

Brief remarks

n a. The nature of ancient Chinese inference

  Non-linear, non-logical equals irrational?

n b. The relation between Language, science and Logic

  Needham: **Puzzle of the development of Chinese science**.

n c. The fusion of western thinking method and eastern method.

  21th century: **Eastern century?**

Thanks

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