

## LINGUISTIC SYNAESTHESIA IN CHINESE

Jiajuan Xiong, Qingqing Zhao and Chu-Ren Huang  
The Hong Kong Polytechnic University

jiajuanx@gmail.com  
zhaqingqing0611@163.com  
churen.huang@polyu.edu.hk

## OUTLINE

- Synaesthesia: an introduction
- Synesthesia in characters: synesthetic characters
  - Sensory radicals
  - Radical combination to encode senses
  - Synaesthetic sense extension
- Synaesthesia in modern Chinese
- Culture-specific synaesthesia
  - Case study: BITTERNESS AND PAIN
- Synaesthesia in Chinese Buddhist studies

## SYNAESTHESIA: AN INTRODUCTION

- Synaesthesia: the union of senses.
- Linguistic synaesthesia is a figure by which a perceptual experience related to one sense is described through lexical means typically associated with a different sense (e.g. 'sweet voices', 'sharp tongues').
- Synaesthesia can be considered as an instance of semantic incongruence.

## The Six Senses

Six internal sense spheres	Contact	Six external sense spheres		
		Sense objects	Dimensions	Qualifying terms
the eye	look at; see	the forms	color, shape, size, space	bright, dull, round, straight, big, small, full, empty...
the ear	listen to; hear	the sounds	uni-dimensional	loud, quiet, melodious, jarring, pleasant-to-the-ear, ear-piercing...
the nose	smell	the smells	uni-dimensional	fragrant, aromatic, perfumed, stinky, odorous...
the tongue	taste	the tastes	uni-dimensional	savory, tasty, delicious, salty, unsavory, insipid...
the body	feel	the tangibles	solidity, fluidity, heat, mobility	hard, soft, fluid, waxy, hot, cold, fast, slow...
the mind	perceive; think	the ideas; the emotions	abstract (positive, negative, neutral)	happy, sad, clear, tranquil, equanimous...

## SYNAESTHESIA IN CHINESE CHARACTERS

- ◉ **Methodology:**
  - Look for synaesthetic characters
  - Hantology
- ◉ **Sensory radicals:**
  - 耳 (auditory)
  - 目 (visual)
  - 口 (gustatory)
  - 心 (mental)
  - 舌 (gustatory)
- ◉ It seems that olfactory and tactile radicals are not salient in Chinese orthography.

## SYNAESTHESIA IN CHINESE CHARACTERS

- ◉ The combination of radicals reveal one of the six senses.
  - 美 'tasty; beautiful' = 羊 'sheep' + 大 'big'
  - 鲜 'tasty' = 鱼 'fish' + 羊 'sheep'
  - 尖 'pointed' = 小 'small' + 大 'big'
- The information encoded by the combination of radicals may be culture-bound.

## SYNAESTHESIA IN CHINESE CHARACTERS

- ◉ The semantic extension of a character may resort to the synaesthesia mechanism.
  - 麻
    - (i) hemp;
    - (ii) numb (**tactile**);
    - (iii) pungent (**gustatory**).
  - The second and the third sense of the character 麻 involve synaesthesia, which covers both tactile and gustatory domains.

## SYNAESTHESIA IN MODERN CHINESE

- ◉ **Visual**
  - 美 'beautiful'
  - 丑 'ugly'
  - 大 'big'
  - 小 'small'
  - 尖 'sharp'
  - 钝 'blunt'
  - 深 'deep'
  - 浅 'short'
  - 嫩绿 'tender-green; light-green' (tactile-to-visual)
  - 冷色 'cold-colors' (tactile-to-visual)
  - 暖色 'warm-colors' (tactile-to-visual)
  - 淡色 'light-color' (tactile-to-visual)
- ◉ The visual domain has several dimensions, such as shape, size, depth and color, among which the color is most conducive to a target domain for synaesthesia (specifically, tactile-to-visual mapping), while the rest of them as source sensory domain.

## SYNAESTHESIA IN MODERN CHINESE

- **Auditory:**
  - 高聲 'high-sound' (visual-to-auditory)
  - 大聲 'big-sound' (visual-to-auditory)
  - 高音 'high-sound' (visual-to-auditory)
  - 重音 'heavy-sound; stress' (tactile-to-auditory)
  - 声音洪亮 'sound-bright; loudness' (visual-to-auditory)
  - 輕聲 'light-sound' (tactile-to-auditory)
  - 輕言細語 'light-speech-thin-speech; soft speech' (tactile-to-auditory)
  - 重話 'heavy-speech; blunt words' (tactile-to-auditory)
- Auditory sense is most likely to be the target domain, which is modified by epithets from other sensory domains, such as visual and tactile domains.
- It seems that those sounds modified by tactile epithets tend to develop into metaphoric meanings.
- (Regarding the differences between 聲 'sound' and 音 'sound', please refer to 洪嘉麟, 黃居仁 2004)

## SYNAESTHESIA IN MODERN CHINESE

- **Gustatory**
  - 甜 'sweet' (originally gustatory)
  - 苦 'bitter' (originally gustatory)
  - 酸 'sour' (originally gustatory)
  - 滑 'smooth' (tactile/gustatory)
  - 嫩 'tender' (tactile/gustatory)
  - 辣 'hot' (tactile/gustatory)
  - 麻 'pungent' (tactile/gustatory)
  - 淡 'light' (tactile/gustatory)
  - 美味 'good-taste; tasty' (no synaesthesia)
  - 怪味 'strange-taste' (visual-to-gustatory)
- Gustatory sense, strictly speaking, is not distinct from tactile sense. Therefore, there are quite a few words that are both gustatory and tactile in meaning.

## SYNAESTHESIA IN MODERN CHINESE

- **Olfactory**
  - 味 'smell' (olfactory/gustatory)
  - 苦 'bitter' (olfactory)
  - 酸 'sour' (olfactory)
  - 香味 'good smell' (olfactory)
  - 臭味 'bad smell' (olfactory)
- Olfactory and gustatory sense are so closely related that the category terms for the two senses share the same character 味 'taste; smell' in Chinese.
- Also, olfactory and gustatory senses share quite a few epithets.

## SYNAESTHESIA IN MODERN CHINESE

- **Tactile**
  - 痛 'pain'
  - 重 'heavy' → auditory
  - 輕 'light'
  - 熱 'hot'
  - 暖 'warm' → visual
  - 冷 'cold' → visual
  - 嫩 'tender'
  - 滑 'smooth'
  - 麻 'numb' → gustatory
  - 淡 'light' → gustatory
- It seems that the tactile domain is an active source sensory domain to be mapped to auditory, visual and gustatory domains.

## SYNAESTHESIA IN MODERN CHINESE

- Mental
  - 淡泊名利 'indifferent to fame'
  - 淡季 'dull season'
  - 稚嫩 'puerile, immature'
  - 辣 'capable and aggressive (ladies); sexy (ladies)'
  - 酣睡 'sleep soundly'
  - 苦难 'ordeal'
  - 酸 'sarcastically speak'
  - 深奥 'profound'
  - 肤浅 'superficial; shallow'
  - 利根 'favorable disposition; favorably-endowed'
  - 钝根 'unfavorable disposition; unfavorably-endowed'

## SYNAESTHESIA IN MODERN CHINESE

- Any hierarchy among the sense domains?
  - Among these sense domains, visual and tactile domains are prominent in the sense that they are likely to serve as source sense domains to be mapped to other domains.
  - Between the visual and tactile domains, the tactile can be said to be more basic, as tactile epithets can modify visual (color) words, such as 嫩绿 'soft-green' and 冷色 'cold-color'.

## SYNAESTHESIA IN MODERN CHINESE

- It seems that synaesthetic expressions encoded in sensory organs tend to involve metaphor. In particular,
  - (a) The meaning is not literal but metaphorical;
  - (b) Word class conversion usually occurs.
- 冷眼 (cold-eye; impartially; with detachment)
  - adjective or adverb (tactile-to-visual)
- 刺耳 (pierce-ear; jarring; harsh)
  - adjective (tactile-to-auditory)
- 刺鼻 (pierce-nose; pungent)
  - adjective (tactile-to-olfactory)
- 长舌 (long-tongue; long-tonged; gossip)
  - adjective or verb (visual-to-auditory)

## CULTURE-BOUND SYNAESTHESIA

- Linguistic synaesthesia exhibits cross-cultural differences.
  - e.g., 尖 in Chinese versus *sharp* in English
- A case study:
  - *Being Assiduous, Do We Have BITTERNESS OR PAIN?* (Xiong and Huang, 2015)

## CULTURE-BOUND SYNAESTHESIA

**Table 1**  
***Ku* 'bitterness; bitter' and its synaesthesia**

<b>gustatory</b>	<b>olfactory</b>	<b>auditory- mental</b>	<b>mental</b>
<i>ku-cha</i> 'bitter-tea', <i>ku-wei</i> 'bitter-taste'	<i>ku-wei</i> 'bitter-smell'	<i>ku-yan</i> 'bitter-words; unpleasant words'	<i>ku-men</i> 'bitter-stuffy; depressed', <i>ku-zhong-zuo-le</i> 'bitter-in-do-happiness; enjoy in the mist of sorrow'
negative	negative	negative	negative

## CULTURE-BOUND SYNAESTHESIA

**Table 2**  
***Tong* 'pain; painful' and its synaesthesia**

<b>tactile</b>	<b>mental</b>
<i>ya-tong</i> 'teeth-pain'	<i>tong-xin</i> 'pain-heart; distressed'
negative	negative

## CULTURE-BOUND SYNAESTHESIA

**Table 3**  
***Bitterness* and its synaesthesia**

<b>gustatory</b>	<b>auditory- mental</b>	<b>tactile- mental</b>	<b>mental</b>
<i>bitter</i> <i>lemon</i>	<i>bitter</i> <i>words</i> (sarcastic or unpleasant words)	<i>bitter</i> <i>blow</i> ; <i>bitterly</i> <i>cold</i>	<i>bitter</i> <i>memory</i> ; <i>bitter</i> <i>experience</i>
negative	negative	negative	negative

## CULTURE-BOUND SYNAESTHESIA

**Table 4**  
***Pain* and its synaesthesia**

<b>tactile</b>	<b>mental</b>
<i>back pain</i>	<i>pain of defeat, pain of imprisonment, the pain of loneliness</i>
negative	negative

### CULTURE-BOUND SYNAESTHESIA

- (1) 吃得苦中苦，方為人上人。  
 chi de ku zhong ku, fang wei ren shang ren.  
 eat can bitter in bitter then be person up person  
 'If you are able to take the bitterest of the bitter, you would be the best among people.'
- (2) 吃苦耐勞的品德  
 chi ku nai lao de pinde  
 eat bitter endure tiredness DE virtue  
 'the virtue of being able to endure the hardships'
- (3) 下苦功夫  
 xia ku gongfu  
 put bitter effort  
 'take great effort'
- (4) 苦練舞蹈  
 ku lian wudao  
 bitter practice dance  
 'painstakingly practice dancing'
- \* Ku 'bitterness' refers to "great effort" in the above examples.

### CULTURE-BOUND SYNAESTHESIA

- (5) tong-chi (痛斥)  
 pain-rebuke  
 'bitterly rebuke'
- (6) tong-gai-qian-fei (痛改前非)  
 pain-correct-before-mistake  
 'earnestly repent and correct one's mistakes'
- (7) tong-da (痛打)  
 pain-beat  
 'bitter relentlessly'
- (8) tong-hui/xi (痛悔/痛惜)  
 pain-regret/regret  
 'deeply regret'
- (9) tong-hen (痛恨)  
 pain-hate  
 'bitterly resent'
- Tong* 'pain' seems to be used as an intensifier.

### CULTURE-BOUND SYNAESTHESIA

- (10) The conceptual metaphor of *ku* 'bitterness; bitter':  
 \* **EFFORT IS BITTERNESS.**
- (11) The conceptual metaphor of *tong* 'pain; painful':  
 \* **INTENSITY IS PAIN.**

### CULTURE-BOUND SYNAESTHESIA

- (12) bitter campaign/argument/opposition/dispute  
 (13) bitter resentment  
 (14) bitterly fight/attack/argue
- \* When *bitter* or *bitterly* is applied, the modified action is intensified.

## CULTURE-BOUND SYNAESTHESIA

- (15) No pain, no gain!  
 (16) Successful are those who are willing to take pains.  
 (17) We must take pains to do meticulous work among the masses.  
 (18) They take pains over writing and send them here for us to read.  
 (19) I had taken great pains with my appearance.  
 (20) If you want to succeed in the work, you must take pains about it.  
 (21) They take pains to hire people whose personalities predispose them to serve customers well.

*Pain* in English seems to be able to encode “effort-making”.

## CULTURE-BOUND SYNAESTHESIA

(22) The conceptual metaphor of *bitter*:

- \* INTENSITY IS BITTERNESS.

(23) The conceptual metaphor of *pain*:

- \* EFFORT IS PAIN.

## CULTURE-BOUND SYNAESTHESIA

**Table 5**  
**The conceptual metaphors of BITTERNESS and PAIN**

	BITTERNESS	PAIN
Chinese	EFFORT	INTENSITY (negative)
English	INTENSITY (negative)	EFFORT

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

### ○ Motivations:

- The theory of the six senses is one of the core teachings in Buddhism. Therefore, we expect to find rich literature revolving around the six senses, which is verified in our study.
- The Chinese Buddhist texts feature a wide range of time depending on when they were translated. This provides us a platform to investigate how sensory words may diachronically differ in terms of their synaesthetic uses.

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

- ◉ 味 ‘taste’ (gustatory word; noun)
  - 我眼見色，我耳聞聲，我鼻嗅香，我舌嘗味，我身覺觸，我意識法。[雜阿含經]
- ◉ Semantically:
  - synaesthetic uses
  - metaphorical uses
- ◉ Syntactically:
  - verb
  - classifier

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

- ◉ 味 in *Agama sutta* is used as an umbrella term for “perception”, such as
  - 色味 ‘form-taste; the perception of visual forms’
    - Visual-to-gustatory
  - 受味 ‘feel-taste; the perception of feeling’
    - Tactile-to-gustatory
  - 慾味 ‘desire-taste; the perception of desire’
    - Mental-to-gustatory
- ◉ 味 in *Lotus sutta* is in a more abstract ‘sense’:
  - 解脫味 ‘emancipation-taste’
  - 法味 ‘dhamar-taste’
    - [NATURE IS TASTE.]

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

- ◉ **Verb:** ‘to savor, to degust, to be attached to’
  - 一切法中無受念著不味不亂。是名禪。
- ◉ **Classifier:**
  - 佛平等說，如一味雨，隨眾生性，所受不同，如彼草木，所稟各異。

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

- The modern use:
  - 意味深長 (sense-taste-deep-long)
    - Synaesthesia: visual-to-gustatory
    - Metaphor: NATURE IS TASTE.

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

- ◉ 聞 ‘hear’ (verb)
  - 我眼見色，我耳聞聲，我鼻嗅香，我舌嘗味，我身覺觸，我意識法。[雜阿含經]
- ◉ Semantically:
  - Auditory-to-gustatory
  - REPUTATION IS SOUND
- ◉ Syntactically:
  - v-to-n conversion

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

- ◉ 聞 in Lotus sutta:
  - 以是清淨鼻根，聞於三千大千世界上下內外種種諸香。
  - 象香、馬香、牛羊等香，男香、女香、童子香、童女香，及草木叢林香——若近、若遠、所有諸香，悉皆得聞，分別不錯
  - Auditory-to-olfactory
- ◉ 名聞甚高 (noun)
  - visual-to-auditory (synaesthesia)
  - REPUTATION IS SOUND. (metaphor)

## SYNAESTHESIA IN CHINESE BUDDHIST TEXTS

- ◉ 觀 ‘look’ and 見 ‘see’
- ◉ 觀 ‘look’ (v) → ‘meditation’ (n)
  - 內觀 ‘insight meditation’.
  - 不淨觀 ‘meditation on uncleanness’
- ◉ 見 ‘see’
  - 知見 ‘view’
  - 正見 ‘right view’
  - 邪見 ‘wrong view’
- ◉ In modern Chinese, 見 develops into a verbal particle to indicate the completion of an action, such as
  - 看見 ‘look-see; see’
  - 聽見 ‘listen-see; hear’

## SUMMARY

- Linguistic synaesthesia in Chinese can be embodied in orthographical, lexical and phrasal/syntactic levels.
- Linguistic synaesthesia may play a role in the diachronic development of lexical changes (e.g., 聞).
- Synaesthesia also helps to explain lexical polysemy, as in the case of 麻 (both tactile and gustatory).
- Synaesthesia even contributes to the development of Chinese grammar system, such as the (new) use of classifiers or verbal particles.

## SELECTED REFERENCES

- Cytowic, R. E. 2002. *Synesthesia: Union of the senses*. Cambridge, MA: MIT Press.
- Day, Sean. 1996. "Synaesthesia and Synaesthetic Metaphors", *Psyche* 2, 32.
- Dombi, Erzsébet. 1974. "Synaesthesia and poetry", *Poetics* 3 (3), 23-44.
- Hong, Jia-Fei, Sue-Jin Ker, Kathleen Ahrens and Chu-Ren Huang. 2011. Sense Prediction Study: Two corpus-driven Linguistic Approaches. *International Journal of Computer Processing of Oriental Languages (IJCPOL)*, 23(3): 229-242.
- Hsieh, Shelly & Kolodina, E. 2007. Synaesthetic Metaphors in Mandarin Chinese and Russian: Taste Languages. Proceeding of the 2007 Hawaii international conference on arts and humanities. Honolulu, Hawaii.
- Huang, C.-R., J.-F. Hong. 2005. Deriving Conceptual Structures Form Sense: A Study of Near Synonymous Sensation Verbs. *Journal of Chinese Language and Computing*. 15.3.
- Marks, Lawrence E. & Catherine M. Mulvenna. 2013. "Synesthesia on our mind", *Theoria et Historia Scientiarum* 10, 13-36.
- Marotta, Giovanna. 2012. "Sinestesia tra vista, udito e dintorni. Un'analisi semantica distribuzionale", In Catricalà, Maria (ed.), *Sinestesia e monoestesia. Prospettive a confronto*, Milano, Franco Angeli, 19-51.

## SELECTED REFERENCES

- Ramachandran, Vilayanur S. & Hubbard, Edward M. (2003). "The phenomenology of synesthesia", *Journal of Consciousness Studies* 10 (8), 49-57.
- Ronga, Irene, Carla Bazzanella, Ferdinando Rossia, Giandomenico Iannetti. 2012. "Linguistic synaesthesia, perceptual synaesthesia, and the interaction between multiple sensory modalities", *Pragmatics & Cognition* 20 (1), 135-167.
- Rosiello, Luigi. 1963. "Le sinestesia nell'opera poetica di Montale", *Rendiconti* 7.
- Schrader, Ludwig. 1969. *Sinne und Sinnesverknüpfungen. Studien und Materialien zur Vorgeschichte der Synästhesie und zur Bewertung der Sinne in der italienischen, spanischen und französischen Literatur*, Carl Winter, Heidelberg.
- Shen, Yeshayahu & Michal Cohen. 1998. "How come silence is sweet but sweetness is not silent: a cognitive account of directionality in poetic synaesthesia", *Language and Literature* 7 (2), 123-140.
- Shen Yeshayahu & Ravid Aisenman. 2008. "Heard melodies are sweet, but those unheard are sweeter: Synaesthesia and cognition", *Language and Literature* 17 (2), 101-121.

## SELECTED REFERENCES

- Strik Lievers, Francesca (to appear). Synaesthesia: A corpus-based study of cross-modal directionality, *Functions of language*.
- Strik Lievers, Francesca, Xu Ge & Xu Hongzhi. 2013. A Methodology for the Extraction of Lexicalized Synaesthesia from Corpora. *Paper presented at the 19th International Congress of Linguists*. Université de Genève, Switzerland.
- Strik Lievers, Francesca. 2007. Italian Perception Verbs. A Corpus-based Study. In Andrea Sansò (ed.), *Language Resources and Linguistic Theory*. Milano: Franco Angeli, 167-179.
- Suárez-Toste, Ernesto. 2013. "One man's cheese is another man's music: Synaesthesia and the bridging of cultural differences in the language of sensory perception", In Caballero, Rosario & Javier E. Díaz Vera (eds.), *Sensuous Cognition*, Berlin, Mouton de Gruyter, 169-192.

## SELECTED REFERENCES

- Ullmann, Stephen. 1957. *The Principles of Semantics*, 2nd edition, Oxford, Blackwell.
- Williams, Joseph M. 1976. "Synaesthetic adjectives: a possible law of semantic change", *Language* 52, 461-479.
- Xiong, Jiajuan, and Chu-Ren Huang. 2015. Being Assiduous: Do we have BITTERNESS or PAIN? in *CLSW 2015*. Beijing: Beijing Normal University.
- Yang, C. T. (2000). Synaesthetic words in Mandarin: Perceptual metaphor and metaphorical extension. Unpublished master's thesis. Chiayi, Taiwan: National Chung Cheng University.
- Yu, Ning. 2003. "Synesthetic metaphor: A cognitive perspective", *Journal of Literary Semantics* 32 (1), 19-34.
- Zhao, Qingqing, and Chu-Ren Huang. 2015. A Corpus-based Study on Synaesthetic Adjectives in Modern Chinese. In *CLSW 2015*. Beijing: Beijing Normal University.