Semantic Distinction and Representation of the Chinese Ingestion Verb *Chī*

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Abstract. Research on the Chinese high-frequency verb *chī* 'eat' is manifold with quite diverse observations by various analytical proposals. Representative works include the five-element semantic chain [1], the emergent argument structure hypothesis [2], and the MARVS-based semantic accounts [3–6]. However, little consensus has been reached on the polysemy of *chī* and its semantic-to-syntactic properties. In this paper, a comprehensive study of *chī* with in-depth lexical semantic analysis is conducted by adopting a corpus-driven, frame-based constructional approach. It proposes that *chī* can be viewed as having 'one frame, three profiles and seven constructional meanings' under the assumption that semantic distinctions can be made only if there are sufficient collo-constructional evidence. This study also demonstrates how the polysemy of *chī* can be understood by a two-dimensional analytical model to account for its semantic extensions based on the interaction of spatial and eventive readings.

Keywords: Ingestion verb *chī* · Chinese verbal semantics · Verbal polysemy · Meaning representation and categorization · Frame-based constructional approach

1 Introduction

Ingesting events (e.g., *eat* and *drink*) pertain to the basic human need to take in substance that the human body requires to survive. They also provide a familiar and salient channel for humans to conceptualize the external world [7]. Encoding the universal need, verbs of eating have been studied by a large number of researchers who aim at characterizing the different arrays of usages of the verbs cross-linguistically and cross-culturally. For instance, [8] introduces the range of linguistic behaviors associated with 'eat' and 'drink' verbs in English and depict the two processes as two distinct metaphorical bases for cognitive semantic extensions. It provides a full semantic characterization of the predicates as they reflect the experiential realities of eating and drinking, including literal and generic uses, figurative uses, morphosyntactic variations,

and grammaticalized extensions of the predicates. [9] discusses the cross-lingual differences and similarities of eating verbs by focusing on languages of Papua New Guinea and Australia. An interesting observation is that some morphemes, such as $k_ə$ - in Manambu or Kalam *ñb*, cover a diverse range of meanings encompassing 'eat', 'drink', 'suck', 'breast-feed', and 'smoke', while 'eat' remains as its central or prototypical sense. It is further suggested that all languages display some sort of a continuum in terms of the specificity of their verbal predicates. In the domain of ingestion, it amounts to recognizing a continuum of highly differentiated predicates in terms of manners of eating and types of food to encode salient experiential distinctions in the domain.

With regard to Chinese, there are numerous previous studies on ingestion verbs and they vary in theoretical frameworks and analytical approaches. This study focuses on the most frequently used verb *chī* 吃 'eat', which ranked 124th among 18813 verbs in Chinese Treebank. Existing works all agree that the verb *chī* is highly polysemous, demonstrating a high degree of semantic multiplicity, ambiguity and flexibility in its meaning representation and categorization. For illustration, the earliest Chinese dictionary *Shuowen Jiezi* includes **nine** basic meanings[1], the Chinese Wordnet and [4] enumerate **28** meaning distinctions[2], while [10] distinguishes and defines **five** basic meanings for *chī*:

(1) Put food into the mouth to chew and swallow it:
    e.g., *chī miàntiáo* 吃面条 'eat noodles',
(2) Rely on other people or sources to live:
    e.g., *chī fùmǔ* 吃父母 'live on parents':
(3) Destroy (used in military and chess games):
    e.g., *chī le yī-gè jūn* 吃了一个军 'defeat an army':
(4) Absorb: e.g., *chīshuǐ* 吃水 'absorb water'
(5) Suffer (from): e.g., *chī yī-quán* 吃一拳 'get a punch'.

To explain the multi-facet definitions of the verb, [3, 11] provide a cognitive account of the semantic variation by means of metaphor and metonymy, and [12–15] concern the different argument structures and subcategorization frames. [12, 13] suggest that the different argument realizations cause the different interpretations of *chī*. Specifically, [14] indicates that the varied semantic roles of '*chī*+N' are triggered by the verb, while [15] argues that the different meanings result from the unconventional involvement of the post-verbal noun as a non-mandatory semantic role, that is, a pseudo-patient, such as *chī shítáng* 吃食堂 'eat in canteen' (Location), *chī kuàizi* 吃筷子 'eat with chopsticks' (Instrument), *chī fùmǔ* 吃父母 'live on parents' (Source), etc. [16] suggests that there are fast and slow variables in the verb-object structure where fast variables (the verb) usually adapt to slow variables (the object) to reach a stable status. Similarly, [17] and [15] adopt the generative model and propose the notions of 'light verb incorporation' and 'light noun incorporation'. In addition, [18] explores the semantic prominence of the object role of 'eat' by testing the N400

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[1] http://www.zdic.net/z/16/js/5403.htm.

[2] http://lope.linguistics.ntu.edu.tw/cwn/query/.

amplitude in an ERP experiment, and proposes the following prominence ranking: Patient > Means > Source > Locative > Instrument. Despite the substantial attention the verb has attracted, the studies of *chī* have not reached much consensus in terms of lexical semantic distinction, categorization and representation. Several key issues still await further investigations as shown in the following research questions.

1.1   Research Questions

The diverged proposals and approaches to the verb *chī* in existing works call for a re-examination of the verbal semantics of *chī*, as well as the cognitive semantic mechanisms behind its semantic-to-syntactic behavior. In line with the basic tenants of the prototype theory in cognitive linguistics [19], a number of essential questions are hereby raised:

First, what is the core frame or most prototypical meaning of the verb *chī*? In what ways and by what motivations can the core meaning give rise to other extended meanings? What are the correlations between the core and extended meanings?

Second, in terms of syntax-semantics interface of verbal behaviors, a lexical meaning is usually associated with some syntactically distinct patterns according to the form-meaning mapping principle. What are then the salient syntactic-semantic associations found in the verbal behavior of *chī*? What are the collo-constructional evidences for its meaning distinctions?

Third, since '*chī*+N' is the most frequently and productively used construction that renders ambiguous or polysemous readings, what is a well-motivated account that can explain the interrelations between the various interpretations of '*chī*+N'?

Fourth, is there any superiority of the various representations of *chī* showing its different semantic prominence in use?

2   Lexical Semantics of *Chī* in Previous Works

In addition to the above briefly reviewed studies, the following three representative works on polysemy are highly relevant to the current study, which are concerned with different issues and offer distinct answers.

2.1   Semantic Chain Theory

The 'semantic chain theory' was first proposed by [20] that the multiple meanings of a polysemous word are formed through a semantic chain, in which meaning A relates to meaning B with some shared properties, and C is extended from B with another set of shared properties, and so on and forth: A → B→C → …. With this approach, [1] proposed a five-element semantic chain of the verb *chī* to represent and account for its different meanings, as shown below:

(a) **Eat for survival** →
     e.g., *chī shípǐn* 吃食品 'eat food', *chī shítáng* 吃食堂 'dine at canteen', *chī xiǎozào* 吃小灶 'treated with special care'

(b) **Import/get/in-take** →

    e.g., *chīshuǐ* 吃水 'absorb water', *chī huíkòu* 吃回扣 'get rebate', *chīxiāng* 吃香 'have the advantage', *chī tòu jīngshén* 吃透精神 'understand the case'

(c) **Suffer (from)** →

    e.g., *chīkuī* 吃亏 'suffer losses', *chīguānsī* 吃官司 'get sued', *chīkǔ* 吃苦 'endure hardships', *chīqiāngzǐ* 耻笑 'being hostile', *chī tā chǐxiào* 吃枪子吃他 'be mocked by him'

(d) **Consume** →

    e.g., *chīlì* 吃力 'consume energy', *chī xià tóuzī* 吃下投资 'consume the funding'

e) **Destroy** →

    e.g., *chī diào dírén yī-gè shī* 吃掉敌人一个师 'defeat the enemy'.

However, such meaning categorization may lead to some problems. For example, syntactically similar usages with metaphorical extensions may fall into different meaning categories. Thus, *chī diào dírén yī-gè shī* is syntactically homogenous with *chī diào tājiāyī-guōfàn*, but they are differentiated into two sense categories. Moreover, *chī xià tóuzī* differs syntactically and semantically from *chīlì* (e.g., *hěn chīlì* vs. **hěn chī xià tóuzī*), but they are categorized into the same sense. And idiomatic expressions such as *chī xiǎozào*, have lost the original meaning pertaining to the eating event. Lastly, it is unclear how the five senses should be ordered in the semantic chain.

2.2   The Emergent Argument Structure Hypothesis

The emergent argument structure hypothesis was proposed in [2], which maintained that a verb's argument structure is not fixed, but open, dynamic, and adaptive to the change of language use. With this hypothesis, [2] attempted to explain the dynamic properties of *chī* in different contexts, including its diachronic evolvement of de-subcategorization, de-nominalization, de-intransitivity and de-stereotype. It distinguished the argument structures of *chī* in two broad classes via the notion of 'argument extension path'. The typical class of *chī* contains the core arguments of agent and patient, while the non-typical class contains an open set of extended argument structures, such as instrument, place, etc. Based on 'argument extension path' theory, patient is regarded as the core argument, and place is the secondary argument. Other relevant arguments are extended from the core to the peripherals, forming a path as 'Patient → Place → Instrument → Manner…' The work in [2] provides a dynamic and historical perspective to the polysemous relations of the verb *chī*, but it is unclear how the extensions in the semantic path are postulated and to what extent the path can be exhaustive in reaching an endpoint. In addition, there is no account of the semantic interactions between the dynamic arguments, and the data used in [2] was from *Beijing Profiles* in 1980s, which is quite outdated compared to current usages.

2.3   The MARVS-Based Accounts

The Module-Attribute Representation of Verbal Semantics (MARVS) was proposed by [21] to analyze the lexical semantics of verbs. MARVS consists of two types of modules, namely, role modules and event modules, and two sets of internal attributes,

role internal attributes and event-internal attributes, which are meant to delimit the eventive and semantic factors of verbal polysemy.

Using the MARVS theory, [3] studied the meaning representations and categorization of *chī* and divided it into six senses by introducing six pairs of role modules, including <Agent, Patient>, <Agent, Place>, <Agent, Instrument>, <Agent, Source>, <Experiencer, Theme>, and <Location, Locutum>. Among the six pairs, the last two indicate novel semantic relations for the use of *chī*. For example, in *tā xǐhuān chī tián* 她喜歡吃甜 'she likes sweets', *tā* is considered to be an experiencer, not an agent, and *chī* a theme, such as a taste, flavor, or cuisine. As for *dàmǐ chīshuǐ* 大米吃水, [3] proposes that *dàmǐ* 'rice' is the location and *shuǐ* 'water' is the locatum, indicating the spatial relation of rice containing water.

The MARVS-based analysis of *chī* is theoretically insightful with many interesting linguistic tests showing the various internal attributes in relation to semantic roles and event modules. However, it is argued that <Experiencer, Theme> interpretation is triggered by the emotion verb *xǐhuān*, instead of the verb *chī*. And the <Location, Locutum> role module seems to only indicate a spatial relation of *dàmǐ* and *shuǐ*, but fails to infer the dynamic change of absorbing or consuming between the two components.

2.4 Significance of This Work: A Framed-Based Constructional Approach

Given that there are still potential problems in the above-mentioned approaches, the present work attempts to provide a theoretically sound, Chinese-specific and cognitively motivated analysis of the verbal semantics of *chī*, which is not only meant to differentiate senses but also to explain the interrelations of the different but related senses with cognitively plausible mechanisms. This paper adopts the **frame-based constructional approach (FC)** proposed in [22–24] by incorporating the theoretical tenets of frame semantics [25] and construction grammar [26] to identify the semantically motivated syntactic variations [27]. Moreover, the analysis is corpus-based by looking at naturally-occurring data in *Sinica balanced corpus* (10 million tokens) and the *Chinese Gigaword corpus* (1 billion tokens). The syntactic distributions of the verbs are extracted automatically from the most prominent collocational forms of the verb *chī* with Stanford CoreNLP toolkit and the semantic analysis is conducted with manual validation based on the FC approach. The data are used to explore and define the frame-verb relation by identifying collo-constructional features distinctively associated with different verb frames or classes. Verbs and constructions, both viewed as meaning-bearing units, go hand-in-hand in defining distinct semantic frames realized with specific argument realization patterns characteristic of a given background frame. Thus, the current approach is able to represent semantic frames with clear formal criteria of constructional associations.

3   Syntactic and Semantic Properties of *Chī*

3.1   Syntactic Distribution

Verbs display distinct syntactic behavior, which provides evidence for their semantic membership. The salient syntactic features and distributions of *chī* are extracted in order to find sufficient syntactic evidence for categorizing the verb meanings of *chī*, as presented in Table 1 below.

Table 1. The overall syntactic distribution of the verb *chī*.

Grammatical roles		Syntactic patterns and examples	%
Nominalized		*jīngguó xiānshēng duì chī bìng bù jiǎngjiū* 经国先生对[吃]ɴ并不讲究 'Mr. Jingguo is not keen on food'	10.2
Pre-noun modifier		*shā zhù chīhēfēng, bànnián jiēzhī 600 wàn yuán* 刹住[吃喝]ᴀᴅⱼ [风]ɴ，半年节支 600 万元 'Banquet remediation saves 6 million in half year'	0.5
Intransitive		a. **S-V:** *wǒ-men bùdébù cáitài rǒngyuán, dàn bùnéng bù chī* [我们]s 不得不裁汰冗员，但不能不[吃]ᵥ 'We had to dismiss employers, but cannot afford to not eat' b. **S-V-C :** *yǒu zhè-zhǒng máobìng de hái-zǐ tōngcháng chī hē guòliàng* [有这种毛病的孩子]s 通常[吃喝]ᵥ [过量]c 'Children with this disease usually eat excessively' *c.* **V :** *kuài chī ba* 快[吃]ᵥ 吧！ 'Finish the food quickly!' d. **S-V-P-N:** *wǒ-men chī zài xiānggǎng* [我们]s[吃]ᵥ[在]ᴘ[香港]ɴ 'We eat at HK'	12.4 (6.8+4.3 +1.2+0.1)
Transitive	Without post-verbal noun	1. **O-V-C:** *huìyì fàn běnlái jiù chī bù wán* [会议饭]o 本来就[吃]ᵥ[不完]c 'Meeting gathering goes and comes' 2. **passive :** *guóyǒuzīchǎn bèi chī kōng le* [国有固定资产]o[被]*ʙₑᵢ[吃]ᵥ[空了]c 'State-owned assets have been consumed' 3. **Ba construction：** *zhuómùniǎo bǎ chóngzi chī le* [啄木鸟]s[把]*ʙₐ[虫子]o[吃]ᵥ 了 'The woodpecker ate the worm' 4. **dative :** *wǒ-men gěi tā-men yú chī* [我们]ɴ₁[给]*ɢₑᵢ[他们]ɴ₂[鱼]ɴ₃[吃]ᵥ 'We feed them fish' 5. **S-*CoV-O-V:** *Zéng Bǎoyí shīmián, zhǐhǎo zhǎo ānmiányào lái chī* [曾宝仪]s 失眠，只好[找]*ᴄₒᵥ[安眠药]o[吃]ᵥ 'Zeng Baoyi suffers from insomnia, and she needs to take pills' 6. **O-*CoV-V:** *fàncài gòu chī* [饭菜]o[够]*ᴄₒᵥ[吃]ᵥ 'Foods are fairly enough'	34.9 (5.5+8.3 +10.5+3.1 +2.6+4.9)
	With post-verbal noun	**V+N:** *chīfàn* 吃饭 'dine', *chī màidāngláo* 吃麦当劳 'dine at Macdonald', *chī cáizhèng bǔtiē* 吃财政补贴 'live on financial subsidy', *chī yī mèngùnzi* 吃一闷棍子 'Be beaten', *chīkuī* 吃亏 'suffer loses', *chī lǎoběn* 吃老本 'live off one's past gains', *chīkǎ* 吃卡 'bank card stuck in ATM', *chī láofàn* 吃牢饭 'to do prison time', *chīàn* 吃案 'conceal the case' and so on.	42.0

S: subject, V: verb, O: object, C: complement, N: noun, P: preposition, Adj: adjective, Adv: adverb, *Ba: *ba* marker, *Bei: *bei* marker, *Gei: dative marker, *CoV: light verb marker.

In view of its syntactic distribution, *chī* is mainly used as a verb (intransitive: 12.4% and transitive: 76.9%), or occasionally nominalized (10.2%), or as a pre-modifier of a head noun (0.5%). This paper focuses on the verbal usage.

In its verbal uses, *chī* can be intransitive or transitive. The intransitive *chī* tends to refer to the stereotypical eating event without specifying the object for eating. The transitive *chī* may occur with or without a post-verbal noun. When used without a post-verbal noun, it is normally marked by other syntactic devices (1–6), such as object inversion with verbal complement, serial verb construction, or object fronting in the *GEI, BA,* and *BEI* constructions, indicating a higher degree of transitivity and agentivity. While allowing certain syntactic variations, these marked transitive uses tend to express the prototypical sense of *chī* without too much ambiguity. In contrast, the default unmarked transitive pattern '*chī*+N' is semantically more complicated and poses a number of research issues as discussed in many related studies. The section below will further demonstrate how a frame-based constructional approach can help identify its syntactic and semantic characteristics.

3.2   The Meaning Categorization and Representations

Verb meanings are anchored in semantic frames which describe distinct proto-events. Hence, the key issue is to determine which frame or what proto-event is encoded in the verb *chī* that allows further sense extensions, and whether the extended senses interact with other different frames. Following the "one frame, one sense" principle, it is proposed that the various uses of '*chī*+N', can be viewed as deriving from '**one frame, three profiles, and seven constructional variations**'. This principled account allows this work to classify, explain and represent its syntactic and semantic variations, as shown in Table 2.

Following the '**One semantic frame, one core meaning**' principle in the frame-based constructional approach, the most salient meaning of *chī* involves the basic event of 'taking something in (to consume)', i.e., the act of ingesting, which gives rise to all possible extensions from the semantic intersection of *chī*. In the event of in-taking, there must be an intaker and intaked in a directed relation: In-taker (X) ← In-taked (Y). The action of intaking may vary in terms of agentivity and volitionality. There are thus '**three potential profiles**' along the event schema that further distinguish the uses of *chī* by encoding different degrees of volitional agentivity: (1) profiling the proto-typical, highly volitional and agentive physical act of ingestion, involving an animate Ingestor, as in *chī dōngxi* 吃東西 'eat something'; (2) profiling the effect of digesting as a result of consumption in a dependency relation (the intaker demands and consumes the intaked), which triggers the interpretation of an consumable support or demand, as in *chī-lì* 吃力 'effort-consuming'; (3) profiling the change of state on the consumed intake as it suffers from a decrease of volume, mass or number, thus referring to negative or undesirable experiences of suffering, misfortune or unwillingness, such as *chī guānsī* 吃官司 'suffer a lawsuit'. In view of the varied semantic elements associated with the surface form *chī*+NP, the three profiled semantic cores may render seven

different constructional associations with '**seven constructional meanings' (CMs)** that are non-compositional in nature. Each of the seven CMs demonstrates a distinct form-meaning mapping unit with its own collocational preferences. For instance, Constructional Meanings 1–4 (CMs 1.1–1.4) express the metaphorical or metonymic transfers of the prototypical meaning of Ingestion, and their varied constructional meanings can be differentiated by different collocational features as shown in Table 2.

Table 2. The semantic distribution of the verb *chī*

Semantic classes			Example	Collocational features	%
Core	Basic	Extended			
0. In-take {A←B}	1. Ingest {A←B}_act	1.1 Typical: 'X eats Y' Ingestor + Ingestibles	*chī tāngyuán* 吃汤圆 'eat sweet dumpling'	**Features in Table 1**	79.9
		1.2 CM1: 'X lives on Y' Ingestor + Source	*chī fùmǔ* 吃父母 'live on parents'	**NO classifier/determiner/quantifier** referring to 维生 *'to make a living'*	4.5
		1.3 CM2: 'X dines at Y' Ingestor + Place	*chī shítáng* 吃食堂 'dine at canteen'	**+ Quantifier**: *chī yī-cì/sān-tiān shítáng* 吃一次/三天食堂 'Dine at canteen once/for three days'	3.1
		1.4 CM3: 'X favors X' Ingestor + Attribute	*chī tián* 吃甜 'keen on sweet food'	**+*hěn*-verbs of liking** *tā hěn xǐhuān chī là* 她很喜欢吃辣 'She likes spicy food very much'	3.0
		1.5 CM4: 'X eats by means of Y' Ingestor +Instrument	*chī kuàizi* 吃筷子 'eat with chopsticks'	**NO Classifer/quantifier Symmetrical couplets**: *dàrén chī kuàizi, xiǎohái chī sháozi* 大人吃筷子，小孩吃勺子 'Grown-ups use chopsticks; children use spoons'	0.1
	2. Digest-Consume {A←B}_change	2.1 CM5: 'X consumes Y'	*chīlì* 吃力 'consuming strength'	**+Degree *hěn* 很 'very'**: *dài xiǎohái hěn chīlì* 带小孩很吃力 'Baby-sitting is exhausting.' **V-*tòu* 透 'thoroughly'**: *shàngbān ràng wǒ chī tòu jìn le* 上班让我吃透劲 了 'I am exhausted after working'	1.1
		2.2 CM6: 'X absorbs Y'	*chīshuǐ* 吃水 'absorb water'	**+ *hěn* 很 'very'**: *dàmǐ hěn chīshuǐ* 大米很吃水 'Rice absorbs water well'	4.4
	3. Suffer {A←B}_undergo	CM7: 'X suffer from Y'	*chī yī mèn gùn* 吃一闷棍 'hit by a stick'	**+Adv: *bùxìng* 不幸 'unfortunate'**: *tā bùxìng chī guānsī le* 他不幸吃官司 了 'Unfortunately, he was sued.	3.9

The above proposed analytical scheme may help answer the research questions raised earlier, with regard to meaning representation and categorization of the polysemy of *chī*. As for semantic prominence of the various senses, it is found that corpus-based distributions may provide some preliminary ranking. According to simple frequency counts, the different uses may be plotted along a continuum of constructional associations: 'Typical:Ingestible > CM1:Source > CM6:Consume > CM7:Suffer > CM2:Place > CM3:Attribute > CM5:consume → digest → destroy > CM4:Instrument'.

In addition to the answers to the several research questions, further consideration is given for analyzing the possible inter-relations between the proposed semantic sub-classes with a cognitively motivated two-dimensional analytical model which combines the spatial and eventive dimensions, as elaborated in the following section.

3.3　The Interrelations: Two-Dimensional Analytical Model

In this section, the possible interrelations between the above-proposed senses are examined by using the Two-dimensional Analytical Model, which highlights the spatial dimension and eventive dimension. The two dimensions work together to clarify the different spatial-physical relations of the frame elements of *chī*, as well as to reveal the temporal sequences between the profiled eventive processes.

Spatial Dimension (horizontal axis): The spatial dimension provides a schematic viewpoint in understanding the spatial-physical relations in the different sub-classes of *chī*. Participant A in Fig. 1 below, as highlighted in the orange circle, typically represents the agent-consumer of *chī* in each sub-class, indicating the spatial directionality of the in-taking event. By labeling the different semantic roles of the agent-consumer, the three basic profiles of *chī* can be semantically distinguished. On the other end, Participant B represents the ingested or consumed entity/substance as the 'moved object' in the event, which can also be further distinguished to different semantic roles with different interpretations. The various types of 'moved object', as highlighted in blue circles in Fig. 1, serve as an indicator of semantic features in rendering the different constructional meanings of *chī*. The dashed boundaries help to segment the different semantic components in representing the three basic profiles of *chī*, and the arrows indicate the directed path of the in-taking motion (A ← B). By representing the common semantic components and the default path of the event, it highlights the core meaning encoded in the verb *chī* as a representative lemma in the In-taking Frame (0: In-take), which serves as a common ground and intersection of all the distinguished meanings of *chī*.

Eventive Dimension (vertical axis): The eventive dimension provides a temporal-progressive viewpoint in understanding the possible causal relations of the in-taking processes of *chī*. As shown in Fig. 1 below, the three basic profiled meanings of *chī* correspond to the three common processes in a dining event, forming a coherent series of the sub-stages of the eating experience: [starting point: Ingesting] → [process: Digesting-absorbing] → [result: Suffering]. As for the result of ingesting, one might argue on the negative polarity in the use of *chī*. In Chinese, only a few cases are found with a positive implication in the use of *chī*, such as in *chīxiāng chīxiāng* 吃香 'have the advantage of'. Indeed, a greater proportion of the eating terms in Chinese are negative in reflecting the unpleasant feelings with bad dining experiences, such as *chī huài dùzǐ* 吃坏肚子 'get the run due to bad foods', *chībùxiāo* 吃不消 'unable to digest', etc.
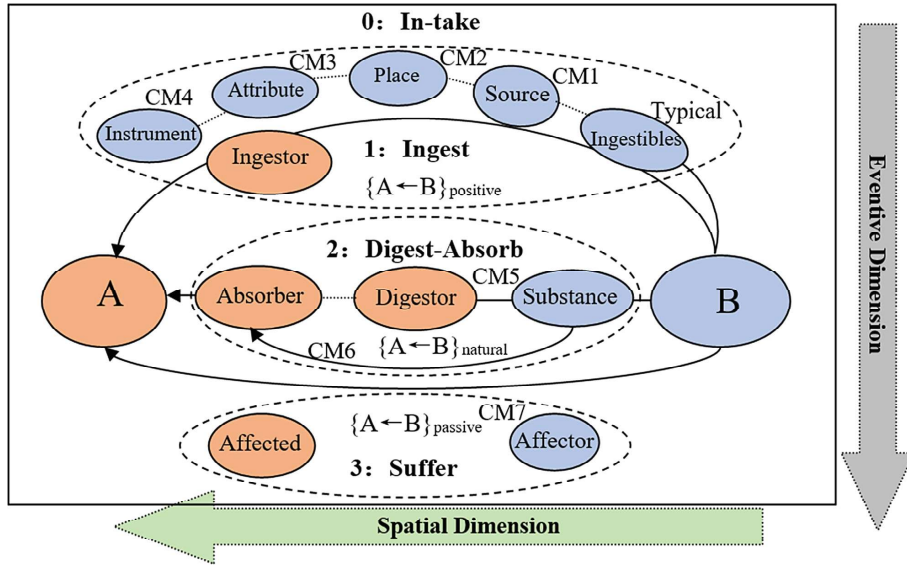
Fig. 1. The two-dimensional semantic model of *chī*

3.4   Idiomization, Grammaticalization and Ambiguity

As a high frequency word in daily usage, the Chinese verb *chī* demonstrates a high flexibility in its lexicalization patterns. As a monosyllabic form in Chinese, it allows an open set of non-typical V-N collocations, and hence encompasses a great number of extended uses, as shown in the above-proposed analytical account. In addition to such meaning extensions, the syntactic openness of the sequence 'chī+X' leads to proliferated exceptional uses, including idiomatic expressions (e.g., *chī bìméngēng* 吃闭门羹 'be brushed off'), argument alternation with category shift (e.g., *chī tā biànliǎn* 吃她变脸 'suffer her bad emotion'), dual readings or ambiguity (e.g., *chī yādàn* 吃鸭蛋 'eat duck egg/perform badly in exam'), and contextually-triggered implication (e.g., *lǎobǎn xiàng yào chī le tā* 老板像要吃了她 'The boss seems to hit on her') and so on. These uses require considerations beyond the scope of lexico-grammatical properties and taking into account the involved discourse-pragmatic factors. Despite of this, it always complies with the general cognitive semantic principles of sense extension. The key issue is then how to identify the core event schema for a verb form and derive the extended sense with a well-motivated path of cognitive transfers for sense extension and association. In sum, the syntactic and semantic behavior of *chī* may vary on the surface, but there must be a semantic core that serves to link the semantic extensions from the prototypical sense associated with the event of in-taking, absorbing, and consumption.

4 Conclusion

This paper presents a case study of lexical semantic inquiry to distinguish related senses and tease out the interrelations between the senses. It investigates the polysemous uses of the high-frequency verb *chī* in Chinese with a corpus-driven and frame-based constructional approach. Addressing the several key issues in the existing literature in terms of meaning categorization and classification of *chī*, it proposes that the meanings of *chī* are linked via the 'one core frame, three basic profiles, and seven constructional meanings' scheme, which is able to account for the syntactic and semantic variations of the verb. The interrelationship between the involved frame elements (semantic roles) and the proposed sub-classes can be schematically plotted along the 'two-dimensional analytical model'. Along the spatial axis, the different roles of the subject-experiencer of *chī* can vary from Ingestor, to Absorber-consumer, to the Affected, which correlate with the three basic profiles of *chī*, indicating different degrees of volition of the actor in conducting the act of in-taking. As a complementary dimension to the spatial dimension, the eventive dimension helps to provide a developmental viewpoint in understanding the possible causal relations of the processes of *chī*, forming a coherent series of the eating experience: [starting point: Ingesting] → [process: Digesting-Absorbing] → [result: Suffering]. The various types of 'intaked objects' also serve as the semantic motivation for aligning the surface V-N form with seven constructional meanings, rendering an array of semantically diverse but syntactically similar uses. The varied semantic associations of the seemingly identical form (*chī*+X) give rise to seven sub-constructions, each of which is a unique form-meaning mapping unit to highlight a unique semantic relation. Future work will verify the effectiveness of the proposed approach and analytical model for detecting the semantic relations of other major Ingesting verbs in Chinese and ultimately conduct typological studies for cross-lingual comparisons with regard to the lexicalization patterns of ingestion verbs and related verbs in general.

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