

# Force Conceptualization in Chinese Media Coverage of Food Security Crisis: A Critical Cognitive Linguistic Analysis

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Food security crisis constitutes a significant social issue, and the dissemination of related events cannot be separated from media coverage. The media portrayal of those events usually involves the dynamic force interactions of multiple entities, thus producing different legitimizing and persuasive functions. Previous studies on food security issues have often lacked micro-level research on discursive aspects, failing to conduct a detailed cognitive discourse analysis of food security crisis. The present study aims to contribute to the field by offering a more nuanced and theoretically grounded analysis of how Chinese media conceptualizes force involved in food security crisis by integrating Image Schema Analysis and Critical Metaphor Analysis within the realm of Critical Cognitive Linguistics to unveil both metaphorical and non-metaphorical conceptualizations motivated by the underlying ideologies of the media. In the aspect of force schema type, the action despite hindrance and the causation of cessation schema are most frequently employed to serve different legitimizing functions. Furthermore, DISEASE, WAR, JOURNEY, ORIENTATION metaphors serve to specifically focus on different cognitive and discursive aspects of food security crisis and they can enrich different force-dynamic schema patterns to give full cognitive account of the event. In addition, the results suggest that Image Schema Analysis and Critical Metaphor Analysis are suited to the analysis of food security crisis discourse. Notably, this study may shed new light on research into linguistic analysis, media studies, and public health discourse.

*Keywords:* food security crisis, media coverage, force conceptualization, Image Schema Analysis, Critical Metaphor Analysis, Critical Cognitive Linguistics

Food security issues have presented a formidable challenge for both developed and developing nations over the past decade (Liu & Ma, 2016). The World Health Organization estimates that approximately 600 million people worldwide, nearly one in ten, fall ill after consuming contaminated food each year, resulting in 420,000 deaths. This leads to the loss of 33 million healthy life years daily, and costs low and middle-income countries an estimated US \$110 billion annually in productivity and medical expenses. Children under five

years of age bear 40% of the foodborne disease burden, with 125,000 deaths each year. Moreover, foodborne diseases hinder socioeconomic development by straining healthcare systems and harming national economies, tourism, and trade (World Health Organization, 2022). As the world's largest developing country with the most significant number of food consumers, China's food security issues are strategically important not only for its residents but also for consumers worldwide who rely on Chinese food exports (Liu & Ma, 2016). Therefore, China's food security is crucial in ensuring global food safety (Yasuda, 2015).

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Meanwhile, public concern and knowledge about food security largely depend on the dissemination of information by mass media. The increasing maturity of the internet and new media platforms provide more opportunities to furnish the public with more comprehensive information discussing various issues surrounding food security. Endowed with the power to "characterize the events of the day and the social structure of society in a particular way" (Santa, 2002, p. 51),

the media functions to collect, select, certify and repackage information.

The focus of this thesis is on the construction of media discourse regarding food security crisis. Specifically, food security discourses involve interactive force processes among multiple entities, such as the hazards of food crisis to the public and the confrontation between people and food security crisis. An attempt is then made for a critical cognitive analysis of food security crisis discourse, indicating that Image Schema Analysis and Critical Metaphor Analysis facilitate the cognitive conceptualization of force interactions of media coverage on food security crisis so as to serve diverging legitimizing and persuasive functions.

The study is structured in 6 major parts (Sections 2–7). Section 2 first reviews the topic of food security issues, and in this vein, within the realm of Critical Cognitive Linguistics, we present reviews of Image Schema Analysis and Critical Metaphor Analysis. In Section 3, we further elaborate theoretical framework of Image Schema Analysis and Critical Metaphor Analysis. Their integration serves as a viable model to capture features of the discursive construction of food security crisis by the media. Next, Section 4 introduces corpus data of this study. In Section 5, we conduct a critical cognitive analysis of the food security crisis discourse. Then, we offer discussion and conclusion respectively in Section 6 and Section 7.

## Literature Review

The topic of this paper is about food security issues. Therefore, the literature review first briefly summarizes relevant researches on food security issues, primarily focusing on discourse studies related to this topic. However, a notable limitation is the lack of a micro-perspective and cognitive analysis in these studies. In addition, the theoretical framework of this research stems from Critical Cognitive Linguistics, specifically Image Schema Analysis and Critical Metaphor Analysis. Reviews of these two theories indicate that this article can make further improvements by giving adequate account of both metaphorical and non-metaphorical conceptualizations of force.

### Food Security Issues

With regard to studies of food security issues, there is a growing body of literature that has been devoted to

investigating the relationship between media coverage or advertising and consumers' perception and behavior. For example, Frewer et al. (2002) conducted empirical investigations into the "social amplification risk" framework by collecting data on attitudes before, during, and after the increased reporting of risks associated with genetically modified food in the United Kingdom. Their findings demonstrated that people's perceptions of risk increased and decreased in accordance with the amplification and attenuation processes inherent in the framework.

Lupton (2004) conducted a thorough analysis of how diverse food risk-related topics were presented to the public over a 14-month span, across three prominent newspapers accessible to readers in Sydney.

Bauer (2005) evaluated the cultivation effect of the press on public perception. The results showed a strong convergence between press coverage and public perception over time, specifically noting a direct relationship between changes in high-quality press coverage and changes in elite perceptions of red/green technology.

Kornelis et al. (2007) investigated consumer preferences for different sources of information when they have questions about food security. The results showed that two-thirds of the consumers exhibited selectivity in their use of information sources. This finding indicated that there were multiple patterns of information acquisition among the general public, providing implications for risk communication strategies.

In another study by McMahon et al. (2010), the authors examined female consumer responses to food advertisements that contained nutrition messages differentiated by the use of "scientific" and "lay person" keywords. The participants' responses to the sample advertisements varied and this diversity in response occurred regardless of whether the advertisement contained "scientific" or "lay person" keywords. The study highlighted the influence of multiple discourses on perceptions of the credibility and persuasiveness of nutrition messages.

Liu and Ma (2016) conducted a quantitative analysis using recent national survey data and media reports to examine the effects of food scandals and media exposure on food safety risk. The study found that media-reported food scandals were not significantly associated with public concern about food safety risk. This suggested that food risk perceptions might be nationwide rather than region-specific.

In a study by Zhao and Feng (2018), the authors used newspaper reports of a food safety scandal involving an online take-out application called "Eleme" to investigate the

heterogeneity between the attitudes of politically controlled party newspapers and marketized independent newspapers. The results of the OLS regression analysis indicated that, before the official exposure of Eleme's food safety scandal on World Consumer Rights Day, local independent newspapers showed more supervision and concern about the local potential food safety scandal.

Guo et al. (2021) developed a model to investigate the dual effects of social trust, namely, behavior discipline effect and media enhancing effect, and analyzed how it was interacted with institutional factors on food scandal exposure using 2004–2011 food event data sample. The results showed that the media enhancing effect played a dominant role in China.

In short, these studies have examined the impact of media discourse, yet their approach to discourse analysis remains relatively macro-level, failing to delve into specific discourse strategies and the underlying cognitive mechanisms. "The cognitive account attempts to fill in some of the missing links that are implicit, or ought to be implicit, in the CDA project" (Chilton, 2005, p. 41), making food security issue an appropriate lens for conducting a critical cognitive analysis.

### Critical Cognitive Linguistics

A number of researches have applied theories of Critical Metaphor Analysis to a wide range of discourse genres, such as public discourse (Santa, 2002), political discourse, media discourse, religious discourse (Charteris-Black, 2004, 2005), business discourse (Koller, 2004), immigration discourse (Hart, 2010), health and disease discourse (Koteyko, 2014; Koteyko et al., 2008a, 2008b), while the application of Image Schema Analysis has mainly focused on political discourse, for example:

Chilton (1996) proposed that cognitive structures such as image-schemas have also been found to articulate political discourse and to function persuasively in processes of policy formation. Specifically, the CONTAINER schema and the FORCE schema underlined how victims conceptualised their experience and (re)construct their identity.

Oakley (2005) concluded that force dynamics, as a schematic imaging system for construing discourse actors in relation to one another, offered a useful perspective and method of understanding how specific linguistic features could satisfy tactical aims. At the same time, the same schematic imaging system was useful for understanding how specific patterns could be used in combination to satisfy different strategic goals, as suggested by the two paragon rhetorical

texts.

In a study conducted by Nuñez-Perucha (2011), an examination of feminist speeches from various historical periods revealed that the in-group's understanding of gender inequality was primarily rooted in the cognitive analysis of the image schema of a container. Additionally, other image schemas, such as verticality and force, were also identified as factors influencing the perception of gender inequality in some cases.

Hart (2011) presented evidence that force-interactive patterns played a significant role in shaping our understanding of physical and political/legal interactions related to immigration. Through repeated patterns of representation and the entrenchment process, these schemas become integral to the discourse on immigration, alongside other idealized cognitive models.

Ullmann (2017) investigated how violent and forceful (inter)actions during the Arab Revolutions were conceptualised linguistically in a critical comparative study of press reports and Twitter posts. Focus was placed specifically on combining Talmy's theory of Force Dynamics with methods of Critical Discourse Studies in order to investigate diverging forms of schematisation of forceful interactions among protest participants.

To sum up, these studies, though presented analysis of force conceptualizations as well as ideological implications, have not given adequate account of both metaphorical and non-metaphorical representations. In addition, these studies mostly lack assistance from large amounts of corpus data and the discourse genres have relatively limited involvement in the field of food security. Based on previous researches, this paper aims to extend into media discourse of food security crisis to present full cognitive accounts of both metaphorical and non-metaphorical conceptualizations with analysis from corpus data.

### Theoretical Framework

The main research field orienting this paper is Critical Cognitive Linguistics, an apt synergy that combines Critical Discourse Studies with the theoretical insights of Cognitive Linguistics. This approach emphasizes the conceptual nature of meaning construction by modelling the conceptual structures and processes indexed by lexico-grammatical evidence as discourse unfolds to constitute an ideology-loaded understanding of the situations and events being described. In

this theoretical landscape, language usages are seen as prompts for meaning co-construction jointly performed through a plethora of conceptual processes or “construal operations,” for instance, image schemas, metaphors, viewing frames, deixis (Hart, 2011). Specifically, the present paper investigates how interactions of force were conceptualized in Chinese media coverage of food security crisis through construal operations of force schemas and metaphors. The combining theories of Image Schema Analysis and Critical Metaphor Analysis unveil both metaphorical and non-metaphorical conceptualizations of force motivated by the underlying ideologies of the media.

Image schemas are abstract conceptual structures that embody recurring patterns of embodied experience, serving as the fundamental basis for linguistic units. They connect a wide range of diverse experiences that exhibit the same recurring structure, forming our fundamental understanding of the situation or event being described (Croft & Cruse, 2004). The structural patterns of image schemas in human experience can give rise to intricate and diverse meanings (Johnson, 1987, p. 42). Numerous examples can be used to exemplify common features of human experience, such as the experience of containment, boundedness, differentiation, and force (Johnson, 1987, p. 41).

The experience of force relates to the exertion of force upon other objects or being subjected to external forces. As forceful activities are tightly woven into people’s experiences, the web of meanings that individuals construct is influenced by the structures of such activities (Johnson, 1987, p. 42). Consequently, when it comes to comprehending meaning in relation to individuals’ experiences, the structures of force assume a fundamental and central role as they permeate the meaning system and the structures of expression and communication.

Subsequent to the development of Image Schema Analysis, the idea that certain concepts were image-schematic in nature was exploited by Conceptual Metaphor Theory (e.g., Lakoff, 1987). Lakoff and Johnson (1980) contended that image schemas could function as the source domains for metaphorical mappings. These image schemas seem to be knowledge structures that arise directly from pre-conceptual, embodied experiences. Plausibly because they stem from the bodily level of experience, which is inherently meaningful, these structures carry significance at the conceptual level (Evans & Green, 2006). For instance, image schemas relating to FORCES metaphorically structure more abstract domains like CAUSES by serving as source domains for these abstract concepts. This is illustrated by the event structure

metaphor, where the image-schematic concept BOUNDED LOCATIONS structures the abstract concept STATES, while the image-schematic concept OBJECTS structures the abstract concept EVENTS, and so on. The striking consequence to emerge from this application of Image Schema Analysis to Conceptual Metaphor Theory is that abstract thought and reasoning, facilitated by metaphor, are seen as having an image-schematic and hence an embodied basis (e.g., Lakoff, 1990). Furthermore, based upon Conceptual Metaphor Theory, in order to uncover the implicit (and possibly subconscious) intentions of language users, Charteris-Black (2004) developed a model of Critical Metaphor Analysis. This approach posits that metaphors play a persuasive role in eliciting strong emotional responses that may influence interpretations of a text. It also views discourse participants as utilizing a repertoire of complex metaphors to negotiate social identities and relations through text, drawing on both discourse practices and cognitive models incorporating metaphors. The selection of different metaphors in a text is thus shaped by and contributes to the discourse context and social cognition.

### Research Data

The research commences with the construction of a corpus comprising materials related to food security crisis. Online media reports serve as the primary source for gathering the corpus. Subsequently, the corpus undergoes annotation to identify the prominent discourse strategies utilized by the media in their coverage of food security crises. This phase of the research aims to discern the salient discourse strategies employed by the media.

Following the corpus construction and annotation, an attempt is then made for a critical cognitive analysis of food security crisis discourse to investigate whether Image Schema Analysis and Critical Metaphor Analysis could facilitate the cognitive conceptualization of force interactions of media coverage on food security crisis. In doing so, the research seeks to shed light on the deeper ideological dimensions and persuasive functions at play in the media’s portrayal of food security crisis.

In corpus linguistics, a corpus refers to a large collection of texts that arises from natural language use in a linguistic context. Unlike other types of texts created specifically to illustrate particular language points, a corpus consists of authentic language data. The concept of attested language is crucial in corpus linguistics, emphasizing that the data are

not fabricated for the benefit of a model, but rather the model emerges from large and representative samples of language. The composition and size of a corpus are determined by the research objectives when designing the corpus, with no specific constraints (Charteris-Black, 2004, p. 31). Specific for this research, the corpus data were sourced from the China Economic Network (<http://www.ce.cn/>), which primarily focuses on media coverage related to economic areas such as finance, consumption, stock market, and food. This website is considered the most authoritative and comprehensive news platform centering around economic affairs. Given that the research focuses on food security crises, which are an integral part of people's economic lives, this website was chosen as the data collection source.

To collect data related to food security crisis, specific keywords such as "food security," "health gate," and "quality gate" were used to search for relevant reports. These reports were then read by the researchers to ensure that their contents indeed centered around food security issues. A total of 85 media reports about food security crises were retrieved for this study, spanning the period from December 2006 to June 2022. The collected materials were cleaned by removing additional information such as boilerplate, headlines, data, photos, and names of journalists. The remaining texts formed the corpus for the study, amounting to a total of 150,400 characters.

Following the cleaning process, the texts were segmented using Corpus WordParser 3.0, which is capable of handling Chinese characters. However, certain proper nouns, such as "Zhu Danpeng" (朱丹蓬), the name of an expert in the food industry, and "aflatoxin" (黄曲霉素), the name of a harmful substance, could not be automatically recognized as proper nouns by the software. Therefore, we manually added them to the user-defined vocabulary. Segmentation is an essential step for the materials to be processed in the software AntConc 4.1.0 (Anthony, 2022). This software enables the generation of statistical results for words, KWIC (Keyword in Context), and concordance. To further analyze the corpus materials, they were annotated using UAM Corpus Tool 6 (O'Donnell, 2008). Two researchers, specializing in Critical Discourse Studies (CDS) and Cognitive Linguistics, performed the annotations.

## Data Analysis

### Force Schema Conceptualizations

The theoretical basis of this section is derived from

Talmy's (2000) force dynamic theoretical model. According to Talmy (2000), two notions are distinguished based on the participants involved in an event: the "Agonist (Ago)" and the "Antagonist (Ant)." The Ago is an entity with primary focus that is always assigned an intrinsic force tendency towards motion or rest, action or inaction; conversely, the Ant, as the opposing counterpart to the Ago, aims to affect the Ago in a certain way. The extent to which this is possible is crucial for the forceful interactions between the two entities. The central question in this context is whether the Ago is able to realize its intrinsic tendency or whether it is successfully controlled and overpowered by the opposing entity. Additionally, the two force-exerting entities represent different levels of strength, with one being stronger and the other being weaker. The distribution of these attributes leads to diverging patterns of force-dynamic schemas in their interaction.

Building on Talmy's model, Ullmann (2017) proposed five types of schemas: despite schemas, causative schemas, letting schemas, shift-in-balance-of-strength schema, and retaliation schema. The despite schema category includes the action despite hinderance schema and the inaction despite force schema. The causative schemas encompass the causation of action schema and the causation of cessation schema, while the letting schemas involve the letting of action schema and the letting of inaction schema. The shift in balance of strength schema depicts a shift in power relations, and the retaliation schema focuses on actions carried out in retaliation or as reactions to prior events. Following Ullmann's categorization, we annotated different schemas on sentence-by-sentence basis with the help of the software UAM Corpus Tool 6 (O'Donnell, 2008). In the layer of despite schema, the action despite hinderance schema was coded as "ade" and the action despite force as "ind"; in the layer of causative schemas, the causation of action schema was coded as "caa" and the causation of cessation schema as "cac"; in the layer of letting schema, the letting of action schema was coded as "lea" and the letting of inaction schema as "ins." The last two layers, the shift in balance of strength schema and the retaliation schema, were coded as "shi" and "ret" respectively. The identification was performed by two researchers in the field of Critical Cognitive Linguistics. After having a pilot annotation and talking over the divergencies, the interrater reliability was acceptable ( $Kappa = 0.8$ ) (McHugh, 2012). Altogether, we identified five types of force-dynamic schema patterns, with the frequency and percentage figures presented in Table 1.

Table 1  
Frequency and Percentage of Different Force-Dynamic Schema Types in the Corpus

Force-Dynamic Schema Types		Frequency	Percentage
Despite Schema	The action despite hindrance schema	622	43.04%
	The causation of cessation schema	614	42.49%
Causative Schema	The causation of action schema	120	8.30%
Letting Schema	The letting of action schema	70	4.84%
Shift-In-Balance Schema	The shift-in-balance schema	19	1.31%
Total		1445	100.00%

Notably in the table, two types of schemas display highest proportions: the action despite hindrance schema represents 43.04% and the causation of cessation schema displays almost identical numbers as 42.49%.

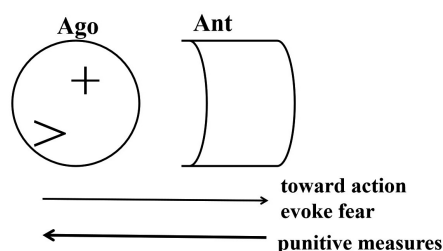


Figure 1. The Action Despite Hindrance Schema

#### Example 1

海底捞门店被查出大肠杆菌，食品卫生问题屡禁不止。

(中国经济网 2020 年 7 月 31 日)

Haidilao restaurants were found to have Escherichia coli, and food hygiene issues are repeatedly prohibited but not stopped.

(China Economic Network, July 31, 2020)

#### Example 2

如果使用大肠菌群超标的餐具，会引起腹泻、肠胃感染等。

(中国经济网 2020 年 7 月 31 日)

If the tableware with excessive coliform bacteria is used, it may cause diarrhea, gastrointestinal infection, etc.

(China Economic Network, July 31, 2020)

The action despite hindrance schema is mainly utilized in two aspects: on the one hand, food security problems keep acting despite preventable measures that have been taken. As illustrated in Example 1, though repeated banning measures

have been taken, the acting tendency of food security problems can not be hindered, the utilization of the adverb “repeatedly” further emphasizes the fragility and ineffectiveness of current measures, thus more effective measure should be adopted. On the other hand, it depicts human bodies as fragile, which can not serve as powerful hindering barrier to prevent the attacking of harmful substance in food. As illustrated in Example 2, it is predicted that human body can not function as barrier to hinder the action of coliform bacteria, thus heightening people’s food safety awareness.

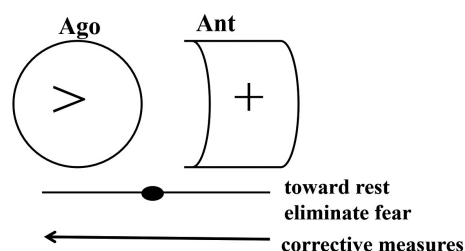


Figure 2. The Causation of Cessation Schema

#### Example 3

广东省市场监管部门约谈“奈雪的茶”并开展食品安全专项检查，北京市西城区市场监管局赴涉事门店进行检查，责令企业停业整改，并立案调查，严肃处理。

(中国经济网 2021 年 8 月 5 日)

Guangdong market supervision departments held a meeting with “Nayuki” and conducted special inspections on food safety. Beijing Xicheng District Market Supervision Bureau also went to the stores involved to conduct inspections, ordered the enterprises to suspend operations for rectification, and launched an investigation to seriously investigate and deal with the case.

(China Economic Network, August 5, 2021)

The causation of cessation schema is another schema type that is in large distribution. As exemplified in Example 3, the schema is typically used to portray how the government exerts more stronger forces to stop the happenings of food security problems, thus lessening people’s fear towards food security problems and serving as deterrence to food corporates that conduct misbehaviors.

Additionally, there exist other types of schema types. Although not prominent in frequency, they still serve distinguished legitimized or delegitimized purposes. Another category of causative schema, namely the causation of

action type, is also present in the corpus to some extent. For instance, in Example 4, “capital” assumes the role of the Ant, while “corporations” are assigned the role of the Ago. The action of the Ago is caused by the promoting force of the Ant. This schema is characterized by the lexical verb “promote,” suggesting a driving force exerted on the Ago. Owing to the greater power derived from the capital market, corporations are compelled to seek expansion and pursue profits at an accelerated pace, even if it goes against their initial willingness. Consequently, the coerced actions of corporations may result in food security crisis. In this case, the schema is employed to offer explanations for external causes of food security problems, illustrating how market rivalry leads to the prioritization of profits over product quality. Thus, corporations are easily coerced and influenced by capital. The schema serves to delegitimize and attribute blame to corporations for their irrational profit-driven actions. Furthermore, the schema also portrays situations where internal causes within the corporation function as the Ant, forcing the corporate, the Ago, to act.

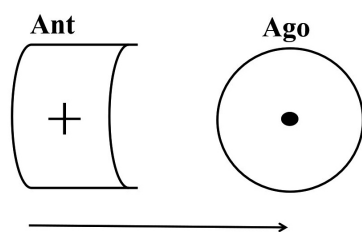


Figure 3. The Causation of Action Schema

As demonstrated in Example 5, the improper mindset of corporations, whereby they perceive “low probability” events as stakes, serves as the causative force that propels corporations to engage in harmful wrongdoings during the manufacturing process. This depiction delegitimizes and criticizes the irresponsibility and immorality of corporations. In conclusion, the causation of action schema serves primarily to provide explanations for the external and internal causes and motivations of food security crises. Externally, the causative force originates from market capitals, while internally, it stems from the improper thinking mentalities of corporations. This depiction delegitimizes the irresponsibility, immorality, and profit-driven nature of corporations that prioritize their own interests over public health.

#### Example 4

在资本助推下，企业要追求速度，追求整个门店的

规模化效应。在此情况下，企业若是疏于在质量内控体系、员工培训体系，以及店内的管理体系等方面的管理，就会出现一定的问题。

（中国经济网 2019 年 6 月 17 日）

Promoted by the influence of capitals, corporate entities are compelled to prioritize the rapid expansion and pursue the scale effect of the entire store. Nevertheless, should these corporations disregard the implementation of robust internal quality control systems, staff training protocols, and management systems, a multitude of issues may arise.

(China Economic Network, June 17, 2019)

#### Example 5

蒙牛乳业（眉山）有限公司生产的一批次产品被检出黄曲霉毒素 M1 超标 140%……它的“病”出在思想上——以“低概率”为赌注打质量的“擦边球”、冒质量的风险。

（中国经济网 2011 年 12 月 27 日）

A batch of products produced by Mengniu Dairy (Meishan) Co., Ltd were checked out to contain aflatoxin M1 that exceeds the standard limit of 140% .... The root cause of this issue lies in a flawed mindset—taking the risk of compromising quality by relying on a “low probability” approach and disregarding the potential risks associated with compromised quality.

(China Economic Network, December 27, 2011)

The letting of action schema appears with relatively low frequency in the media corpus, and this type is typically observed in situations like the Example 6, where individuals assume the role of the Ant initially exerting control over the Ago. However, as time progresses, the Ant loosens its grip on the Ago, allowing food security problems to arise and manifest their inherent tendency towards action. Tolerance of the public towards these issues enables their continuation instead of hindering them. This schema aims to prompt the public to recognize that being tolerant towards food security crisis is unwise, and instead, they should exert strong forces to impede the problems from further escalating. Its legitimized and persuasive function is to compel the public to enhance their awareness of food safety issues and actively assume responsible roles in safeguarding consumers’ health interests.

#### Example 6

人们对食品安全问题的“包容”，并不会让食安问题得到解决，反而会助长更多问题。

（中国经济网 2018 年 5 月 20 日）

People's tolerance towards food security problems will not get them solved, but allowing more problems to occur.

(China Economic Network, May 20, 2018)

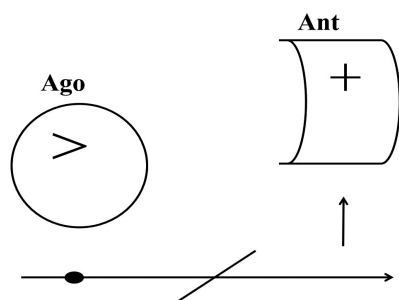


Figure 4. The Letting of Action Schema

Slightly different from other types of schemas, the balance of strength schema in the dynamic and constantly changing nature of force interaction patterns does not assign fixed roles to the Ago and the Ant (Ullmann, 2017). Therefore, the depiction of shifts in balance of strength patterns usually involves changing levels of interactive procedures. For example, in Example 7, although the agentive entities are not explicitly specified lexically, they can be inferred and easily implied by the larger context that food corporations and consumers are engaged in a constant struggle of forces. The corporations must make decisions between saving manufacturing costs and losing public confidence, while consumers face a dilemma of showing tolerance towards food security problems or forcefully safeguarding their personal health interests. Different choices will evolve into different force interactive patterns. Naturally, it is expected that the unstable states can come to a rest when everything returns to a normal order. Therefore, the legitimizing purpose of this schema is to advocate for a return to states of safety and stability in the area of food issues.

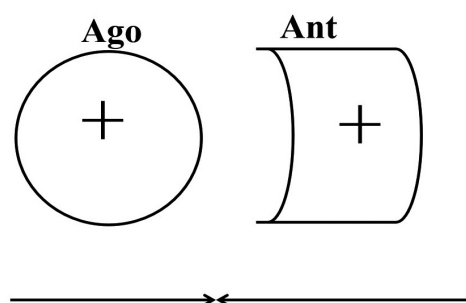


Figure 5. The Balance of Strength Schema

#### Example 7

买还是不买，卖还是不卖，永远都是场拉锯。

(中国经济网 2015年8月17日)

To buy or not to buy, to sell or not to sell, it always remains a see-saw struggle.

(China Economic Network, August 17, 2015)

One noteworthy aspect is the holistic nature of image schemas, which imparts an internal logic to them when they are apprehended to conceptualize a given scene. In the discourse of food security crisis, the structural configuration strategy of force-dynamics involves framing food corporates, substances, and problems as a physical, and potentially violent entity that invokes a struggle, routinely cast in the role of the Agonist. Additionally, the arrangement of roles in the force-dynamic system also reflects an ideological dimension in the decision of text-producers as to which participant a role is assigned (Wolf & Polzenhagen, 2003, p. 265). This, in turn, frames entities such as food security crises, food corporates, and harmful substances as instigators of force interactions.

#### Metaphorical Conceptualizations of Force

By virtue of MIPVU (Metaphor Identification Procedure Vrije University) (Steen et al., 2010, pp. 25–42) procedure on a character-by-character basis, four major types metaphors are identified: DISEASE metaphor, WAR metaphor, JOURNEY metaphor, and ORIENTATION metaphor. The interrater reliability was strong (Kappa = 0.91) (McHugh, 2012). The frequency and percentage data of the lexicons are presented in Table 2.

Table 2  
Frequency and Percentage of DISEASE, WAR, JOURNEY, and ORIENTATION Metaphors

Type		Frequency	Percentage
DISEASE Metaphor	把脉 / 治病 take one's pulse/cure one's illness	2	0.25%
	病 (catch) a disease	20	2.52%
	伤疤 / 硬伤 / 致命伤 / 损伤 scar/bruise/(fatal) injury	6	0.50%
	元气 energy	2	0.25%
	闪了腰 sprain one's back	1	0.13%
	痛 pain	14	1.77%
	肿瘤 / 毒瘤 tumors	3	0.38%
	后遗症 / 依赖症 sequela/dependency syndrome	3	0.38%
	死 / 病入膏肓 die/become terminally ill	3	0.38%
	Total	57	6.05%



Type		Frequency	Percentage
	打击 strike	12	1.51%
	定时炸弹 time bomb	11	1.39%
	围剿 encircle and suppress	1	0.13%
	箭 / 剑 arrow/sword	7	0.88%
	突击 assault	7	0.88%
	固若金汤 be secure against assault	1	0.13%
	护城河 moat	3	0.38%
	壁垒 / 屏障 barrier	3	0.38%
	进军 / 进驻 march	10	1.26%
	抢占 seize	3	0.38%
	策略 / 战术 strategy	8	1.01%
	包围 besiege	2	0.25%
	消灭 / 消杀 wipe out	18	2.27%
WAR Metaphor	稳扎稳打 go ahead slow and steadily	1	0.13%
	战役 battle	3	0.38%
	防线 line of defense	4	0.50%
	失守 rout	4	0.50%
	卷土重来 stage a comeback	5	0.25%
	过五关, 斩六将 slain six generals and breach five passes	1	0.13%
	防控 / 防范 / 守住 defend	19	2.27%
	纸上谈兵 be an armchair strategist	2	0.25%
	穷追猛打 hotly pursue and fiercely attack	2	0.25%
	撤 retreat	4	0.50%
	炮轰 bombard	2	0.25%
	当头一棒 deal a direct blow	1	0.13%
	折戟 broken halberd	1	0.13%
	Total	135	16.39%
	终点 ending point	2	0.25%
	独辟蹊径 blaze a new trail	3	0.38%
	渠道 / 途径 channel/way	37	4.67%
	何去何从 where to go and come	2	0.25%
	高歌猛进 advance triumphantly		
	道路 / 路径 path/route	24	3.03%
	赛道 / 车道 track/lane	5	0.63%
	跟 (不) 上 (not) follow up	15	1.89%
	快 (高) 速扩张 extend rapidly	62	7.82%
	进一步 one more step	40	5.04%
JOURNEY Metaphor	灰色 / 模糊地带 gray/vague zone	6	0.76%
	步伐 step	7	0.88%
	走向 / 迈 walk/stride	27	3.40%
	事故 accident	20	2.52%
	翻车 turn over	5	0.63%
	下坡路 downhill path	1	0.13%
	前车之鉴 lessons drawn from mistakes of previous car	3	0.38%
	退出 exit	10	1.26%
	重蹈覆辙 follow the same disastrous road	6	0.76%

Type		Frequency	Percentage
	进军 / 进驻 march	10	1.26%
	行得通 go smoothly	1	0.13%
	卷土重来 stage a comeback	2	0.25%
	地步 stage	2	0.25%
JOURNEY Metaphor	落后 fall behind	3	0.38%
	背道而驰 run counter to	1	0.13%
	跑 run	6	0.76%
	进入 enter	22	2.77%
	撤 retreat	4	0.50%
	Total	328	41.36%
	底线 baseline	17	2.14%
	陷 sink	68	8.58%
	跌 fall	39	4.92%
	下滑 glide	20	2.52%
	一落千丈 suffer a disastrous decline	2	0.25%
	低谷 lowest point	1	0.13%
	倒塌 / 倒下 topple	2	0.25%
ORIENTATION Metaphor	质量至上 the top position of quality	2	0.25%
	低于 lower than	13	1.64%
	高于 higher than	9	1.13%
	居高不下 remain at a high position	3	0.38%
	增长 / 上升 / 上涨 increase	66	8.32%
	下降 decline	27	3.40%
	登上 climb	17	2.14%
	靠前 near the front	1	0.13%
	Total	287	36.19%
	Total	803	100.00%

On the part of DISEASE metaphor, it describes a situation where an enterprise itself lacks immunity, placing it in an unhealthy state. This portrayal emphasizes the enterprise's vulnerability and inability to effectively resist or overcome food security crisis, as in Example 8:

#### Example 8

假如一年抽检几千次, 却依然质量频频失控、问题层出不穷, 那只能说企业自身得了“重病”。

(中国经济网 2012年9月21日)

If food corporates are inspected randomly for thousands of times but out of control in quality with endless problems emerging, then we can only say the corporates got severe diseases.

(China Economic Network, September 21, 2012)

Diseases are commonly experienced as disruption to the normal functioning of the human body, often accompanied by discomfort, pain, and sufferings. If not treated properly and

promptly, diseases can lead to a painful and agonizing death. “Diseases” are metaphorically used to depict the impact of force undergone by food corporates, aiming to portray food corporations with quality problems as individuals who are seriously ill, with their condition worsening due to frequent problems. Though there are “spot checks,” they are unable to prevent the actions of diseases. Unless immediate and effective measures are taken, these problems can be fatal and ultimately result in the downfall of the corporations. Apart from “disease,” “pain” is also in large proportion. This association is easily understandable, as disease often brings about feelings of pain in human perception. Other specific terms such as “tumor,” “scar,” “bruise,” “sequela,” and “dependency syndrome” are employed to represent specific impact of force exerted on food corporates. These terms draw on common knowledge to evoke the risks associated with tumors, the long-lasting marks left by scars, the prolonged effects of sequela, and the dependency syndrome that exerts a lasting influence on individuals. The use of these terms emphasizes the urgent need for treatment for the ailing corporations suffering from force of blockage, as failure to do so would result in their eventual extinction after enduring prolonged suffering. The metaphorical expressions related to “diseases” essentially demonstrate the action despite hindrance schema: the diseases actively act upon food corporates despite some measures that have been taken, thus blaming the current ineffective measures and calling upon effective and harsh measures to be taken.

In the frames of WAR scenarios, both the action despite hindrance and the causation of cessation force schema types are demonstrated to fully portray the attacking force and strong counterforce. On the one hand, certain verbs such as “march,” “seize,” and “stage a comeback,” as well as nouns like “time bomb” are used to portray food corporations as aggressive enemies launching forceful operations with lethal weapons against the people. These items are vivid conceptualization of action despite hinderance force schema type. For example:

*Example 9*

除了像“定时炸弹”一样的食品质量问题，来伊份本次 IPO 的项目盈利能力也存在疑问。

(中国经济网 2016 年 7 月 19 日)

Doubts still remain in the project earning power of IPO for Laiyifen except food quality problems like “time bomb.”

(China Economic Network, July 19, 2016)

The phrase “time bomb” refers to a lethal weapon that poses significant dangers at a specific time. In this context, the phrase is used to highlight the potential dangers that each store currently harbors and which may manifest in the future. Mentally, “time bomb” is associated with ruins, wreckage, disasters, and death when it explodes at a predetermined time. This association creates a sense of fear and deterrence. The sense of deterrence is further intensified as more “time bombs” are discovered. By leveraging the imagery of life-threatening war weapons, the media aims to emphasize the dire consequences of food security issues. The stores that house these potential dangers are blamed for their lack of effective safety measures, and greater attention is drawn to the phenomenon of irrational business development. The individuals or groups acquiring these “time bombs” are depicted as enemies attacking the nation and its people.

On the other hand, counterforces are represented through verbs such as “strike,” “wipe out” and “defend,” which illustrate the strategic actions of courageous fighters as they confront the enemies. These sets of items represent the utilization of causation of cessation force schema. For example:

*Example 10*

食品安全法的立法重点主要在于防范食品安全事故风险，简言之就是涉及到生命安全的食品安全事故，而对于基本的食品卫生，则属于虽有规定而难以执行。

(中国经济网 2017 年 9 月 1 日)

The primary objective of enacting the food security legislation is to safeguard against the potential risks associated with food security incidents. In simpler terms, it primarily pertains to those incidents that pose a threat to human life. However, when it comes to ensuring the fundamental aspect of food quality, there exist relevant regulations that prove challenging to be effectively implemented.

(China Economic Network, September 1, 2017)

The verb “defend” originally denotes the strategic action taken to confront an attacking party and prevent further aggression. In the context of food security issues, legislation serves as a strategic approach to counter the risks posed. Additionally, nouns such as “moat” and “barrier” are used to reinforce the efforts made by members of the self-group in countering the attacking forces of the enemy. Weapons like “arrow” and “sword” symbolize the fight against the

antagonistic group. War scenarios often evoke a clear demarcation between two opposing groups, with readers sympathizing with the self-group and harboring hostility towards the other-group. When the antagonistic group is the aggressor and the self-group is forced to defend, the self-group is depicted as valiant, heroic, and skilled, while the other-group is portrayed as provocative, unjust, and inhumane. Semino (2008) suggests that WAR metaphors dramatize the opposition between participants who are constructed as enemies. Additionally, according to van Dijk (1998), ideologies involve an “us/them” polarization, with positive beliefs and attitudes towards “us” and negative beliefs and attitudes towards “them,” providing guidance for social action. The use of militarizing metaphors implies a sense of purpose and precision on the part of food corporations, the government, the media, and the public.

The process of the “battle” is characterized by twists and turns, as neither party has the upper hand at all times. The self-group may face setbacks in the form of a “rout” or errors in strategy, such as being an “armchair strategist.” However, they spare no effort in regaining the advantage by “hotly pursuing and fiercely attacking,” “encircling and suppressing” the enemies, and establishing “barriers” and “moats” to fortify the defense line. The antagonistic party may “stage a comeback” but it will “retreat” in the end. Though the battle against misconduct of the food corporates is not won easily and immediately, the media discourse holds the stance that the self-party will successfully defend against the antagonistic party after long-period twists and turns since the former represents the justice while the latter is the symbol of evilness. Therefore, the WAR metaphors specifically conceptualize the action despite hinderance and the causation of cessation schema pattern. The former indicates that the enemies are attacking people so people’s food safety awareness should be heightened and the latter indicates that the government and people are taking measures to stop the disastrous actions of the enemies, thus encouraging people to actively contribute their part.

Regarding the JOURNEY metaphorical frames, action despite hinderance causation of action patterns serve as FD foundations. Specifically, the phrase “extend rapidly” is used extensively to depict corporations advancing swiftly on the road. However, this phrase is not employed to commend the rapid development of these corporations. Instead, it is used to criticize the urgent pursuit of business extension at the expense of public health and security. The food corporates choose to advance rapidly despite facing a series of risks as

hinderance. For example:

*Example 11*

餐饮企业在快速扩张的过程中，往往会面临来自食品安全、制度管理、质量把控等多方面的挑战。  
(中国经济网 2018年9月14日)

In the process of extending rapidly, the catering corporates will always face multi-tiered challenges from the aspects of food security, system management, quality control.

(China Economic Network, September 14, 2018)

As part of their business operations, catering corporations adopt rapid development strategies to aggressively pursue high profit margins, akin to a person swiftly moving forward on a road in order to achieve their goals as quickly as possible. However, problems arise during this process. If the individual focuses excessively on speed and reaching the end point, they may choose to overlook factors that could slow down their progress. Similarly, food corporations urgently pursue business profitability, prioritizing speed over social interests, and neglecting to adhere to business ethics and societal expectations.

The rapid development of food corporates will lead to a series of problems, which is the utilization of another FD pattern: the causation of action. For example:

*Example 12*

新式茶饮发展之快，众人有目共睹，摊子铺得过快，容易出现管理跟不上的问题。  
(中国经济网 2021年8月5日)

The tea-drinking industry of novel style is developing rapidly, which is witnessed by the public; nevertheless, when the stall is expanding too rapidly, problems will easily occur in that the related management can not follow up.

(China Economic Network, August 5, 2021)

In connection with the critique of the imbalanced development of food corporations, the phrase “follow up” is combined with the negative term “not” to indicate areas crucial to corporate development that are not being adequately addressed. Clearly, the tea-drinking industry is rapidly embarking on a journey of business expansion, while the pace of management improvement lags behind, thus falling behind. As a result, the conflict between rapid development and sluggish management approaches leads to the misconduct of food corporations in relation to food security. The

metaphorical representation of causation of action force schema type indicates inherent causes of happenings of food security crisis. In addition, the media frequently chooses to use the term “accident” to metaphorically imply that the food corporations themselves are responsible for the accident due to their irrational and rapid actions, similar to driving a car at high speeds without appropriate safety measures. Therefore, the disastrous outcome is a self-inflicted tragedy, and the main blame should be assigned to the food corporations. Additionally, the connotations of “accident” as severe injury and loss of life intensify the gravity and fear associated with food security scandals. Furthermore, certain words used, such as “march,” “stage a comeback,” and “advance triumphantly,” overlap with the metaphorical framework of WAR, describing the aggressive actions of the food corporations and carrying derogatory connotations to undermine their legitimacy. As a result, the framing strategies in the aspect of journey scenarios are employed to offer explanations as to why these food security crises have erupted with a high frequency and presented severe consequences with the life-threatening bloody images of traffic accidents evoked in readers’ mind.

In additions, the causation of action schema can be used in another way to indicate expectations of future actions. Notably, these items such as “one more step,” “stride” are frequently combined with model verbs like “should” and “need” to conceptualize causation of action schema, indicating that these scenarios are expectations and future actions. For example:

*Example 13*

于企业而言，诚信是其安身立命之本，企业应当进一步提高法律意识、道德意识。

(中国经济网 2021 年 7 月 19 日)

For corporates, integrity plays a fundamental role, thus, they should improve the awareness of laws and morality one more step.

(China Economic Network, July 19, 2021)

The phrase “one more step” does not pertain to a literal physical step, but rather serves as a metaphorical representation of additional progress that corporations should strive to achieve in order to cause the cessation of food security crises in the future. In this particular context, the media highlights the current shortcomings of these corporations in terms of their legal and moral awareness. These deficiencies partly contribute to the occurrence of a series of food safety scandals, thus emphasizing the need

for these corporations to make improvements in these areas. Similarly, the use of terms such as “walk” and “stride” depicts the ongoing actions of the food corporations, signifying that they are required to complete more tasks in front of them. This is illustrated in Example 14:

*Example 14*

除了小龙坎，回收使用地沟油仍是火锅行业需要在食品安全方面迈过的一道门槛。

(中国经济网 2020 年 7 月 16 日)

The recycling of illegal cooking oil still remains as a threshold that hot pot industry needs to stride over in the aspect of food security except Xiaolongkan.

(China Economic Network, July 16, 2020)

The verb “stride” is employed to describe the future objectives of the hot pot industry, specifically, to prioritize the clean and legal usage of cooking materials. Interestingly, the phrase “expand rapidly” and the terms “one more step,” “stride” and “walk” may appear to have contrasting directions of movement, with the former indicating the fast-paced advancement of corporations and the latter pointing out the current limitations of food corporations. However, in essence, they are not semantically contradictory but rather complementary in depicting the overall journey of corporations by focusing on different aspects. The former emphasizes the rapid progress made by food corporations in their journey towards urgent economic gains, while the latter highlights the slow advancement in terms of enhancing legal and moral awareness. Consequently, the journey metaphorical frame facilitates an understanding of why a series of food safety incidents have occurred: the unbalanced focus on economic pursuits over public interests has resulted in negligence towards food security.

In the metaphorical frames of ORIENTATION, two main directions are represented: upward and downward. The former is frequently used to represent action despite hindrance force schema and the latter is mainly employed to conceptualize causation of action force schema. Generally, “higher than,” “increase” and “climb” are predominantly used to present corporate data. For example, in Example 15, the verb “increase” metaphorically signifies the upward movement of Qiaqia’s performance figures. This metaphor is commonly used and established, but it is important to note that in the media corpus, the representation of “up” does not necessarily indicate something positive. While the increase in performance figures may seem indicative of growth and prosperity on

the surface, beneath this interpretation lies criticism of the corporation, implying that despite numerous problems, food corporates are still keeping actions. The underlying message suggests that the upward development is accompanied by a loss of control over product quality.

*Example 15*

但是，在“质量门”频出的同时，洽洽食品业绩却在稳步增长。

(中国经济网 2013 年 2 月 19 日)

However, though Qiaqia Food was frequently exposed of “Quality Gate” incidents, its performance figures were increasing steadily.

(China Economic Network, February 19, 2013)

The media exposes the primary focus and pursuit of business growth by food corporations, highlighting the prominence of economic interests in their operations. However, while these corporations may achieve economic gains at the expense of public health for a certain period, it does not guarantee perpetual prosperity. Within this media corpus, a significant portion of words are used to depict the “upward direction” including terms like “sink,” “fall,” “glide,” “suffer a disastrous decline,” “lower point” and “topple.” These terms predominantly indicate that food security crises serve as causative force for these declining tendencies. For instance:

*Example 16*

不过，食品质量这一块儿不过关，公司即使上市也无法令投资者放心。因为一旦出现食品质量丑闻，就会像之前一样令公司业绩大幅下滑，进而影响投资者利益。

(中国经济网 2016 年 7 月 19 日)

Nonetheless, in the event that the standards for food quality are not met, even corporations that have been publicly listed are unable to instill confidence in investors. This is due to the fact that when food security scandals arise, as has been witnessed in the past, corporate performance indicators can experience a significant decline. Consequently, the interests of investors are also adversely affected.

(China Economic Network, July 19, 2016)

Overall, ORIENTATION metaphors are mostly employed to describe statistical changes as representation of action despite hindrance and causation of action schema pattern, mainly indicating the consequences for food corporates to bear carried

with evaluations on the corporates that it is despicable to gain increase in interests at the cost of public health and in the long run, failure to comply with public interests will lead to decline in corporate interests.

## Discussion

This study is designed to make a critical cognitive analysis of Chinese media coverage of food security crisis based on the framework integrating Image Schema Analysis and Critical Metaphor Analysis.

Based on the findings from the media corpus analysis guided by force-dynamic theoretical models, two prominent force-dynamic schemas have been identified as the most frequent patterns operating in food security discourse: the action despite hinderance schema and the causation of cessation schema. The former schema is used to depict the severity of food security crisis, thus amplifying people’s fear perception and safety awareness. Consequently, it naturally calls for harsh, mandatory, or punitive measures, such as imposing tough legal punishments, to add hindrance to the attacking force of the agonist. In contrast, the latter schema focuses on the cessation of agonist actions due to the stronger counterforce exerted by human bodies or targeted actions. As a logical consequence, the legitimating function of this schema is to alleviate people’s fear and irrationality regarding food security issues, thereby appealing to soft or corrective measures, such as corporate reforms and upgrades, to strengthen and further promote the current state of stability.

Additionally, the causation of action schema primarily serves to provide explanations for both external and internal causes and motivations of food security issues. The legitimizing and persuasive function of the letting of action schema is to compel the public to enhance awareness of food safety issues and actively assume responsible roles in safeguarding consumers’ health interests. Lastly, the legitimizing purpose of the balance of strength schema is to advocate for a return to states of safety and stability in the realm of food issues.

As to metaphorical expressions of DISEASE, WAR, JOURNEY, ORIENTATION. On the part of DISEASE metaphor, it gives vivid representation of the action despite hindrance schema pattern by focusing on the inability of food enterprises to acquire immunity. In the frames of WAR scenarios, both the action despite hindrance and the causation of cessation force schema types are demonstrated

to fully portray the attacking force and strong counterforce. Regarding the JOURNEY metaphorical frames, action despite hindrance and causation of action are in the largest proportion. Specifically, the former depicts the attacking force of food corporates regardless of public interests and the latter are used in two aspects: disclosing inherent causes of food security crises and proposing future actions. In the metaphorical frames of ORIENTATION, two main directions are represented: upward and downward. The former is frequently used to represent action despite hindrance force schema and the latter is mainly employed to conceptualize causation of action force schema.

### Conclusion

Major findings of the research can be summarized as follows: (1) Two prominent force-dynamic schemas have been identified as the most frequent patterns operating in food security discourse—the action despite hindrance schema and the causation of cessation schema—to serve different legitimating purposes. (2) Metaphorical expressions of DISEASE, WAR, JOURNEY, ORIENTATION serve to specifically focus on different cognitive and discursive aspects of food security crisis. (3) Metaphorical expressions of DISEASE, WAR, JOURNEY, ORIENTATION enrich different force-dynamic schema patterns to give full cognitive account of the event.

Given the food security discourse context, the research involves a critical assessment of how media outlets frame and disseminate information about food security crisis especially in terms of portrayal of dynamic force interaction in order to disclose different legitimizing and persuasive functions. By integrating the application of Image Schema Analysis and Critical Metaphor Analysis in the realm of Critical Cognitive Linguistics, and the analysis of media public health discourse, the article aims to provide a theoretical and empirical foundation for research at the intersection of linguistic analysis, media studies, and public health discourse.

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