

Multimodal Meaning Construction of Anti-Pandemic Promotion Picture from the Semiotic-Cognitive Perspective

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Abstract: *As the major form of anti-epidemic promotion in network media, anti-epidemic promotion picture applies diversified multi-modal symbol resources in the construction of meaning. By exploring the interactive relationship between visual grammar and conceptual metaphor/metonymy, a joint multimodal research framework is created to clarify the meaning construction and mechanism contained in anti-epidemic pictures. The research shows that conceptual metaphor and conceptual metonymy not only provide cognitive motivation for the realization of visual grammar, but also inspire the associations of images to the real world. Visual Grammar highlights the cognitive meaning expression of conceptual metaphor and metonymy, stimulates readers' interpretation of conceptual metaphor and metonymy. The research explores the combination of two mainstream multimodal research paths, and provides a new perspective for multimodal discourse analysis practice.*

Keywords: *Visual Grammar; Conceptual Metaphor/Metonymy; Anti-COVID-19 Promotion Pictures*

In *Rhetoric of the Image*, R. Barthes pioneered the concept of multimodal discourse analysis by studying the ideographic functions and interactions between images and language. Multimodal discourse analysis includes non-verbal modal resources such as images, sounds, and gestures into the same analytical category as linguistic modalities, considering them as equally important ideographic resources as language. With the multimodal research shift in functional linguistics and cognitive science, multimodal discourse analysis has become a hot topic in the field of discourse analysis and is developing alongside and in combination with related research such as critical discourse analysis, positive discourse analysis, and ecological discourse analysis. To conduct multimodal discourse analysis, it is first necessary to define what modality is and its functions. "modality" is a semiotic system that interprets meaning through specific perceptual processes. Modality is a social semiotic system that realizes meaning and is an ideographic resource shaped by social culture. These various semiotic discourses have the function of expressing thinking structures and cognitive experiences. Based on this, there are currently two main research paths in multimodal research: one is the social semiotic path based on systemic functional linguistics theory, and the other is the cognitive linguistic path based on conceptual metaphor theory.

Derived from Halliday's linguistic metafunction theory, visual grammar classifies the metafunctions of images into representational, interpersonal, and compositional functions through the construction of an image metafunction system. ^[1] Meanwhile, the cognitive approach represented by conceptual metaphor and metonymy has also garnered significant attention as another major research direction in multimodal discourse analysis. Through exploring the metaphors embedded in advertising images, Both research approaches possess strong explanatory power for multimodal texts and are currently the mainstream research paths in multimodal discourse analysis. However, most current multimodal studies still focus primarily on a single social semiotic perspective or conceptual metaphor perspective, and few studies have combined the two approaches.

This article selects anti-epidemic promotion comics released by multiple official media accounts in China as research materials, constructs a unified analysis framework from the perspective of combining visual grammar and conceptual metaphor/metonymy, and reveals the types and mechanisms of meaning construction in multimodal texts of anti-epidemic promotion.

1. Visual Grammar

Visual Grammar is one of the representative theories in the field of multimodal research in social semiotics, rooted in the metafunctional theory of systemic functional linguistics and further expanded and applied to the visual modality level. ^[1] Halliday argues that language possesses three metafunctions: ideational function, interpersonal function, and textual function. ^[2] The ideational function depicts the external and internal worlds of language users, the interpersonal function establishes and maintains relationships between individuals, and the textual function organizes information and reflects the relationships among them. Modalities such as language, images, sounds, and actions are complete systems of meaning that can be used to realize the three major functions of ideation, interpersonal communication, and textual organization.

The theory of Visual Grammar points out the similarity between systemic functional grammar and Visual Grammar in terms of symbol classification. Specifically, the visual ideational and narrative functions in Visual Grammar correspond to the experiential function in functional grammar, the visual interpersonal function corresponds to the interpersonal function, and the visual structural function corresponds to the textual function.

The experiential function of functional grammar is realized through the transitivity system, and Visual Grammar derives a similar representational system based on the transitivity system of functional grammar. The transitivity system of functional grammar involves participants in the process, who are classified into actors, carriers, perceivers, sayers, etc., depending on the different transitive processes they are involved in. However, Visual Grammar only includes two types of participants: interactive participants and representational participants. Interactive participants represent individuals who create and observe the image (such as photographers and audiences), while representational participants represent entities in the image. The behavior of representational participants is referred to as "transaction", which corresponds to the transitive process of functional grammar. ^[1,2] The representational function of Visual Grammar is divided into two main processes: narrative process and conceptual process.

Similar to the material process of functional grammar, the narrative process of Visual Grammar presents events, actions, or changes in state. ^[3] The interaction between participants can be expressed through "vectors," such as the swinging arms of two boxers in a match, which can serve as a "vector" connecting them. The conceptual process of Visual Grammar corresponds to the relational and existential processes of functional grammar, representing the general state of participants in the image and general facts of the world. The conceptual process can be further divided into classificatory process, analytical process, and symbolic process. The classificatory and analytical processes of Visual Grammar correspond to the inclusive and possessive relational processes of functional grammar. ^[3] The symbolic process of Visual Grammar corresponds to the identifying relational and existential processes of functional grammar.

The interactive meaning of Visual Grammar encompasses three dimensions: contact, social distance, and attitude. These three dimensions coordinate the relationship between the image producer, the subject in the image, and the audience. Elements such as camera angle, eye contact, facial expressions, etc., are ideographic resources that adjust the relationship between the subjects. For example, a frontal camera angle represents a presentation of real events, expressing an objective meaning and the invisibility of the producer, while a side camera angle expresses a certain degree of subjectivity of the producer. An upward perspective can represent the higher social status, power, and distance from the audience of the participants in the image.

The compositional function reflects the old and new information in the image. Generally speaking, the left side of the image represents old information while the right side represents new information, which is related to reading habits. Top information typically represents abstract meanings such as definitions and concepts, while the bottom represents instances and realistic images of these concepts. This composition is often seen in advertising images. The degree of association between participants in the image can be reflected through framing.

2. Multimodal Conceptual Metaphor and Metonymy

Dutch linguist Forceville was the first to introduce the study of conceptual metaphor in linguistic modality into the field of multimodality. ^[3] By examining metaphorical phenomena in advertising images, he proposed visual metaphor as a research path in multimodal studies. Metaphor involves two entities belonging to different cognitive domains, and based on the corresponding relationship between their constituent elements, one entity can be understood and perceived through the other. ^[3] Conceptual

metaphor consists of two conceptual domains: the source domain and the target domain. Conceptual metaphor refers to the structural pattern mapping from the source domain to the target domain, which reflects the corresponding relationship between entities from the source domain to the target domain. For example, in the sentence "Time is money," "Time" is the target domain, while "money" is the source domain. Based on empirical and conceptual similarities, a mapping relationship can be established between the two. Conceptual metaphor can be classified as structural, ontological, and orientational metaphors. [3] Structural metaphor reflects the systematicity of metaphorical expressions for metaphorical concepts, such as the metaphorical expression "attack a position" in the context of the "war" metaphor. [4]"Attack," as part of the conceptual system of "battle," constructs a metaphorical relationship between "battle" and "argument." Ontological metaphor mainly involves metaphorizing abstract concepts as material entities (including a special kind of personified organism metaphor) and "container metaphor," such as "There is a lot of land in Kansas," where "Kansas" is conceptualized as a container for "land." Orientational metaphor assigns spatial orientation attributes to other abstract concepts, such as "economic growth" and "rising employment rates."

Metonymy is a rhetorical device that differs from metaphor in terms of cognitive mechanisms. Metaphor is based on the similarity of cognitive categories in different cognitive domains, representing a mapping relationship between cognitive categories. In contrast, metonymy is grounded in the adjacency of cognitive categories within the same cognitive domain. For example, in "All the world's a stage," "World" and "stage" belong to different cognitive domains; conceptual metonymy occurs within the same cognitive domain, such as in "Do I have your ear," where "ear" and "listening" both belong to the cognitive domain of "hearing," representing a relationship between an organ and its function. Conceptual metonymy establishes a psychological connection between two conceptual domains within the same cognitive domain, using the salient features of an entity to represent its entire set of features.

Although they differ in cognitive mechanisms, metaphor and metonymy are closely related in practical language use. Conceptual metonymy, similar to conceptual metaphor, is not just a linguistic phenomenon, but a fundamental way of thinking for humans. It serves as a tool for conceptualizing and cognitively abstracting categories, representing a bidirectional cognitive process occurring within the same cognitive domain.

3. Visual Grammar and Multimodal Cognitive Integration Framework

Visual grammar provides a structured and detailed breakdown of the various elements of visual modalities and their spatial representations, but it lacks convincing power in interpreting non-realistic images, such as the definition of symbolic processes, which is often completed solely through common sense and lacks certain cognitive justification. On the other hand, conceptual metonymy and metaphor are suitable for analyzing imaginative text genres such as comics, but they lack explanations of image structure. Overall, both visual grammar and conceptual metonymy and metaphor have strong explanatory power for multimodal texts. By combining the two and constructing an analytical framework, we can systematically demonstrate the interpretation patterns of visual modal texts.

Martin [2] developed Halliday's metafunctional theory and proposed three structural patterns for the three metafunctions: the particle pattern (ideational function), the prosodic pattern (interpersonal function), and the wave pattern (textual function). At the discourse modal level, particles manifest as clauses themselves and their transitivity system components: participants, processes, and circumstances.





Type of structure		Type of meaning
particulate		ideational meaning
- orbital [mono-nuclear]		- experiential
- serial [multi-nuclear]		- logical
prosodic		interpersonal meaning
periodic		textual meaning

Figure 1. Meaning and Structure

The representational structure of visual grammar originates from the transitivity system, providing a basis for interpreting the particle pattern of visual modalities. In the visual modality, participants, components of participants, and processes (vectors) can also be identified as particles that constitute the image. Figure 2 primarily depicts two characters engaging in boxing, with their attacking arms forming the "vectors" that represent the narrative process.



Figure 2. Boxing the Virus

In summary, both visual grammar and conceptual metonymy and metaphor rely on particle structures to delineate the boundaries of their respective components, coexist harmoniously, and complement each other in the interpretation of multimodal texts. Visual grammar provides a structural basis for conceptual metonymy and metaphor, while conceptual metonymy and metaphor furnish visual grammar with cognitive justification. Based on the interaction between the two and the particle structure model of multimodal texts, a multimodal integration analysis framework integrating social semiotics and cognitive theory can be constructed.^[5]

Conclusion

By combining the perspectives of social semiotics and cognitive linguistics, this study established an analytical framework and conducted a case study using anti-epidemic promotion comics as the corpus to explore the interactive relationship between visual grammar and conceptual metaphor/metonymy theories in multimodal texts. The components of the anti-epidemic comic images can be divided into particle patterns, which correspond to the conceptual domain, source domain of conceptual metaphor/metonymy, as well as the participants and processes of visual grammar. Based on this, an interactive analysis of visual grammar and conceptual metaphor/metonymy in anti-epidemic promotion comics can be conducted, leading to the identification of types and methods of meaning construction. Through visual grammar and conceptual metaphor/metonymy, anti-epidemic promotion comics primarily achieve the construction of solidarity meaning, war meaning, positive emotions, negative evaluations, and the portrayal of anti-epidemic images. Conceptual metaphor and metonymy provide cognitive justification for the realization of visual grammar's representational function, bridging the gap

between images and the real world. Visual grammar highlights the cognitive meaning expression of conceptual metaphor/metonymy, helping to stimulate readers' interpretation of conceptual metaphor and metonymy, thus establishing a connection between images and reality. By combining social semiotics and cognitive theory to study anti-epidemic promotion comics, a systematic design framework can be provided to authors from the perspective of multimodal discourse analysis, promoting the realization of their communicative intentions, enhancing the acceptability of the works, and effectively achieving the purpose of anti-epidemic promotion. By constructing the image of Chinese people fighting the epidemic, expressing the promotional intentions of the discourse authors and disseminators, arousing public empathy, and fostering a sense of security and well-being, it aims to criticize illegal phenomena during the epidemic response, thereby strengthening the confidence and determination of the entire nation to unite and fight the epidemic.

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