Beyond Visual Metaphor: A Cognitive Interaction Between Metaphor and Metonymy in Filming Visual Rhetorical Image of the Statue of Liberty

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Abstract

It was the boom of image transmission that accelerates a series of emerging interdisciplinary researches on visual rhetoric. **The aim** of this study is to investigate a cognitive function model of how metaphtonymy interaction takes place with cross-interaction of meaning operation and visual structure along with progressive imagery and values transfer both in source domain and target domain of visual metaphor. **It results in two important findings:** one comes from the **exemplification** of *Top Ten Film Appearances of the Statue of Liberty* where an active interaction might often operates between visual metaphor and metonymy either in metaphorical source domain or target domain or even in the both, during which four types of visual rhetorical figures, mainly represented by visual connection-related juxtaposition, visual opposition-related juxtaposition, visual connection-related fusion, visual connection-related replacement, more possibly **interprets** three steps of the target imagery transfer from archetypal imagery to conceptual image and last to symbolic imagery of the Statue of Liberty. It also unveils two levels of values shift from heuristic one to terminal one. **The other finding** attributes to a cognitive function model of interaction between metaphor and metonymy based on Liu's model (2018) and a typology of visual rhetoric showing classification of ad examples (Phillips and McQuarrie, 2004) together with Liu's (2011) three types of imagery transfer and Rokeach Values Scale. **The first finding** initially connects visual production to psychological cognition of imagery and values transfer. It paves a way to explore visual metaphor from a psychological cognitive point of view beyond advertising. **The latter one,** following Liu (2018), systematically rebuilds and **exemplifies** a cognitive model of metaphtonymy interaction, which can not only provide a significant guidance for audience to do critical thinking and rational judgment when consuming visual metaphors, but also contribute to visual products' good quality and GAPP' s effective supervision of visual products circulation.

Key words: *Top Ten Film Appearances of the Statue of Liberty*; Visual rhetorical image; Visual rhetorical figures; Interaction between metaphor and metonymy

INTRODUCTION

It was the symbolic form that prompted the study of **visual rhetoric** in 1960s (Liu, 2017). Ezra Pound (1989), the representative figure of imagism, early defined **image** "a complex of reason and emotion presented in a moment". Image was originally a psychological concept, nowadays has been extended to the field of visual rhetoric, thus expanded the theoretical study of visual issues. In the practice of visual rhetoric, "**rhetorical image**" has become a common production in order to create greater emotional identification. It is just the image generated the persuasive discourse in the way of producing "rhetorical image" (Hill, 2004).

Even in the *Defing Visual Rhetoric* written by Hill & Helmers (2004), there was not a clear definition of visual rhetoric, but merely specific cases to discuss the meaning generation and competing effects of different visual

symbols in a specific communication or discourse field, that is, "how image acts on viewers in a rhetorical way"(Helmers & Hill, 2004). Also, Li Changchun and Wang Huarui (2012) defined visual rhetoric as a series of skills and methods, which was wisely selected to dispose kinds of visual elements in communication such as repetition, **metonymy and metaphor**. They are commonly used in TV advertising.

Since the 1950s when Kenneth Burke proposed "rhetoric of symbolic action" (Burke, 1956), visual rhetoric has gradually become mature in western academic studies. In past decades, researches on visual rhetoric more focused on advertising and have made great contribution in theoretical development and empirical investigation (Forceville, 1996; Maes and Schilperoord, 2008; McQuarrie and Mick, 1999; McQuarrie and Phillips, 2005). Particularly, **visual rhetorical figures** have drawn scholars' great effort building theoretical modes and frameworks to interpret and reveal the cognitive interaction between meaning operation and visual structure (Forceville, 1996; Phillips and McQuarrie, 2004; Maes and Schilperoord, 2008; Lagerwerf, et al., 2012). But a large part of them got involved in research of information processing in viewers. Researches on **visual metaphor** spring up in recent years, **but** even the novel investigation just fixed in identifying the interaction of metaphor and metonymy by analyzing the signified and signifier of signs in the advertising samples (Kashanizadeh，et al.,2019) or focused on cognitive elements like abilities in processing visual metaphors (Ventalon, et al., 2020) , deep researches on **cognitive mechanism of rhetorical image producing in video communication are still in shortage, even though the role of cognitive processing might be the prerequisite to facilitate viewers' perception of the artful imagery (Lagerwerf, et al., 2012).**

Current domestic researches on visual rhetoric extensively scattered in advertising (Feng, 2010; Zhao and Peng,2019), news communication (Qin,2018;Wang,2018), political discourse (Wang,2015;Wu,2017;Yin,2018;Tan,2019) and movies (Cai,2010; Du, 2017; Yang,2017) et cetera. They have mostly focused on the picture format of visual discourse, processing skill of visual rhetoric, arts and aesthetics, rhetorical image and other issues of visual communication, apart from several researches on theoretical framework construction (Liu, 2016; Wang,2019). **Those issues about visual image construction and its structural design have hardly ever been discussed** (Yang, 2019). **Fortunately,** Liu Tao (2018) provided a more microscopic and rich analytical framework of three basic image forms, including **archetypal image, conceptual image and symbolic image,** thus presented a new point of view for visual rhetorical study. **Subsequently, w**hat deserves scholar's further concern is to understand "image" in the cultural sense with the combination of "meaning", "image" and

the corresponding visual psychological mechanism especially in quite distinctive forms.

Liu Tao (2011) found that the image meaning might undergo two big cognitive leaps on the way to achieve its persuasive purpose: one is **from** "heuristic cognitive mechanism" that works to **emotionally** compile and receive image culture, **to** "systematic cognitive mechanism", a way to rationally compile and receive speech culture, through which the core rhetorical interaction between metaphor and metonymy played a decisive role. Also, his advocate of applying Rokeach Values Scale (Rokeach, 1973) in practical research really sparked scholars' insight into exploring psychological mechanism of the construction and generation of cultural images. Subsequently, as illustrated in figure 1, a new theoretical framework invented also by Liu (2018) can facilitate one's comprehension of how metonymy and metaphor interact in target and source of visual metaphor in diverse visual forms. It nicely helps to unveil the secret of the visual metaphor of *the Statue of Liberty* in top Hollywood films, the most representative and influential rhetorical imagery in visual communication. **But it is not possible to interpret and reveal how the interaction between metaphor and metonymy contributes to meaning transfer and how we might be persuaded to accept and take the target imagery and values for granted. Fortunately,** a new typology of visual rhetoric invented by Phillips and McQuarrie (2004) can work well to develop viewers' psychology cognition of the imagery production in different visual structure (as illustrated in Table 1). Meanwhile, the double leaps from instrumental values to terminal values, from heuristic cognition to systematic cognition proposed by Liu (2011) can activate our heuristic perception of progressive imagery producing and values communication.
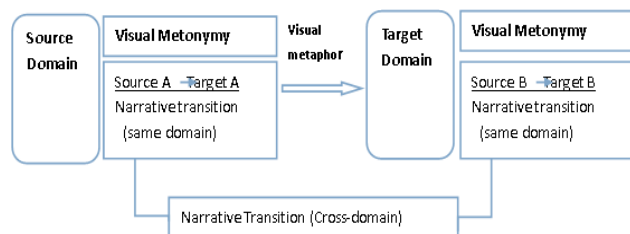
Figure1
The Function Model of Interaction between Metaphor and Metonymy (Liu, 2018)

According to the cognitive transition between visual metaphor and visual metonymy, there are two basic modes of interaction between the metonymy and metaphor: one is a visual metaphor mode based on single metonymy; the other is a visual metaphor mode based on double metonymies. The former means that metonymic structure only happens in metaphoric source domain, while the latter denotes that there is a metonymic structure in each of the source and target domain. In visual metaphors, metonymy exerts a positive role, that is, it not only

determines the manifestation mode of the metaphorical object, but also determines the production logic and imaginary structure of similarity in metaphors (Liu, 2018).

Within the interactive process between metaphor and metonymy, proper visual rhetorical figures listed in Table 1 take part in metaphoric image generation. They have taken an active role and result in making an integrated contribution to convey the full code meaning of the Statue of Liberty in *Top Ten Film Appearances of the Statue of Liberty*. Table 1 is approximately a two by three cross-classification of meaning operation and visual structure, building on nine categories of visual rhetoric in a cross-classification proposed by Phillips & Mcquarrie (2004). It helps to address how viewers can have a nice perception of meaning transfer in visual metaphor by means of rhetorical figures like connection-related juxtaposition, connection-related fusion, connection-related replacement and opposition-related juxtaposition. In Table 1, they are more reasonable and suitable for elaborating on the cognitive processing of metaphtonymy interaction in visual metaphor **beyond** printed advertising **after** Lagerwerf (2012) exemplified the function of two by two cross-classification of meaning transfer and visual structure **just in printed advertising**, detailed into connection-related juxtaposition and fusion, and similarity-related juxtaposition and fusion.

Table 1
Cross-classification of meaning operation and visual structure

| | | Meaning operation | |
		Connection	Opposition
Visual structure	Juxtaposition	5	*5*
	Fusion	4 1	
	Replacement	3 9 10 6 8 7 2	

Adapted from a three by three classification in Phillips and McQuarrie (2004)

*Each number in above table represents each of *Top Ten Film Appearances of the Statue of Liberty*; the italic numbers denote the film appearances undergone two domains of metaphtonymy interaction.
1=Ghostbusters 2=Planet of the Apes 3=*Saboteur* *4=X- Men 5=Superman IV*
6=Cloverfield 7=Deep Impact 8=The Day After Tomorrow 9=*Titanic* 10=*Splash*

In light of nine categories of visual rhetoric, derived from a cross-classification of three kinds of meaning operation and three types of visual structure, this research schematized four categories, as showed in table1, which might be more likely used to interpret how metaphtonymy interacted in cognitive processing of meaning transfer in visual metaphor **beyond** advertising. They are visual connection-related juxtaposition, visual connection-related fusion, visual connection-related replacement and visual opposition-related juxtaposition. Within the row dimension of meaning operation, visual connection means, in some sense, A is associated with B, **visual similarity** predicts A is like B, even though it doesn't exert an visible

function in ten example visual metaphor of this research, and visual opposition particularly implies A does not seem like B. When it comes to the column of visual structure, juxtaposition represents two side-by–side images, fusion refers to two combined images, and replacement signifies image presents points to an absent image (Phillips and McQuarrie, 2004). Their cross-interaction finely contribute to detecting and unveiling the secret **beyond** visual metaphor—a cognitive interaction between visual metonymy and metaphor in processing three types of images of The Statue of Liberty with progressive footsteps from archetypal imagery to conceptual imagery and eventually to symbolic meaning.

1. ARCHETYPAL IMAGE OF THE STATUE OF LIBERTY

Archetypal image implies an unconscious, universally shared framework of understanding, with a relatively stable system of meaning. In other words, some patterns of understanding become archetypes when they repeatedly occur and settle in the system of everyday life experience, and are deeply embedded in the unconscious, forming a universally shared framework of understanding (Liu, 2018) like *the Statue of Liberty* in American history.

The Statue of Liberty, as the symbol of the United States, settled in the west of New York City's Manhattan Island, the Freedom Island. It holds the torch, consistently stands at the entrance of New York harbor of New York City, lastingly watching the metropolis. The copper statue was designed by French sculptor Frédéric Auguste Bartholdi and built by Gustave Eiffel. It was unveiled by U.S. President Grover Cleveland on October 28, 1886. American immigrants believed it might help them get rid of poverty and shake off oppression they suffered in the old world. In some sense, the statue of liberty became **a symbol for America**.

It was in 1884 when French gave the statue of liberty to Americans as a gift symbolizing freedom. The Goddess wears a splendor crown, with a loose robe in roman style. She holds a few meters long torch **which is a symbol of freedom** with her right hand, and her left hand held a coin, engraved the date of the publication of the American declaration of independence with Roman numerals — July 4, 1776 AD. Her foot is tied with broken chains, the right heel lift up to make a forward state. The whole statue presents **the image of breaking the shackles and moving forward**. On the cornerstone of the Statue of Liberty engraved the sentences of sonnet of new giants written by Emma Lazarus, a Jewish poet. The imposing Statue of Liberty gives people **a sense of inviolability**; while her dignified and plump figure which likes an ancient Greek beauty makes people feel **kind and natural.** The statue has become an icon of **freedom** and of the United States, welcoming immigrants arriving from abroad (Furtado, 1986).

It was in 1984 that the Statue of Liberty was designated a UNESCO World Heritage with the credit of "masterpiece of the human spirit" that "endures as a highly potent symbol—inspiring contemplation, debate and protest—of ideals such as liberty, peace, human rights, abolition of slavery, democracy and opportunity." For more than a century, the statue of liberty stands in a free island has become the symbol of the friendship between people and the united nation. It always expresses the American people's desire for democracy, dream for freedom. Besides the symbol of Liberty, has become a symbol of science fiction's pessimistic view of the future (Furtado, 1986).

Thanks to the historical fame of the statue of liberty and it's **stable and profound archetypal image as freedom and liberty**, the image media concern cast around desperately to bring it to silver screen in digital ways. For instance, the top ten Hollywood films like *Splash*, *Titanic, and The Day After Tomorrow* etc. truly witness the different visual rhetorical images of the Statue of Liberty.

2. CONCEPTUAL IMAGE OF TOP TEN FILM APPEARANCES OF THE STATUE OF LIBERTY

Like conceptual metaphor proposed by Lakoff &Johnson (1980), **conceptual image** is essentially a systematic mapping from image representation to conceptual implication. For instance, when the image of the appearances of Statue of Liberty has been photographed on the film, we can perceive its so-called conceptual meaning as an icon or else.

The Statue of Liberty is not only a symbol of an **icon** in films like *Splash*(No.10) , *Titanic*(No.9)*, The Day After Tomorrow*(No.8), *Deep Impact*(No.7), but also a symbol of **weapon** in films like *Superman IV*(No.5), *X-MEN*(No.4) and *Ghostbusters*(No.1)*, with the exception of symbolizing disappear in *Planet of the Apes*(No.2), destruction or destroy in *Cloverfield*(No.6) and *Saboteur*(No.3).

In *Splash* themed on romance, the Statue of Liberty appeared when the mermaid heroine swam out of the sea, transformed into a human and went ashore, looking around the new land with unprecedented panic and expectation. She also brought the humans on land a big surprise and even shocked them to crowd in and gather around her with enthusiastic and curious welcome speeches in chaos and noise. It is a symbol of freedom and fresh start (You Tube, 2012).

In *Titanic* focused on survival, the statue of liberty welcomed the incoming immigrant finally reached the new world. It is a symbol of rescue of survivals entered the New York harbor. When the rescued heroine cast an emotional stare at the statue of liberty, it is more likely to endow the statue with the power to get those immigrants rescued (You Tube, 2012).

Despite the statue of liberty represents a symbol of hope (You Tube, 2012), it has been destructed more than once on films like *The Day After Tomorrow* and *Deep Impact. They* were both hit and destructed by giant tsunami, due to extreme climate changes that has occurred in the world, which warns people of keeping world's security and ecological balance. In *The Day After Tomorrow*, the destruction of the Statue of Liberty was used as a sign of upcoming collapse hit by giant tsunami and latterly can be seen completely frozen over due to global extreme climate change. *Deep Impact* covers the destruction of the entire Ireland and Manhattan city also destroyed by the tsunami. In above three films, the statue surely represents the states and Americans who might have the fatal attack by the natural disaster due to humans' fail to keep nature intact. Unlike the destruction of the statue of liberty caused by tsunami, it was the evil-monster who decapitated the statue and made the city in trouble in *Cloverfield,* which cast the statue with the role as the central city of America.

The Statue of Liberty witnessed the punishment and disposition against the real destroyer in *Saboteur*. It was clearly a symbol **for the justice**.

Planet of the Apes exposed human's suspicion of their future and history, in which, the half-buried body of the statue is not the symbol for hope but for disappear.

Specially, the statue functioned as a **weapon** to fight against the evil in *Superman IV*, *X-MEN* and *Ghostbusters.* Fortunately, superman is able to save both the innocent citizen and lady liberty from pending doom, thus still represents **truth and justice** in American way in *Superman IV*. While *X-MEN* uses the statue climax as the weapon finally defeated the villain. It was in *Ghostbusters* that the triumphant mobilized the lady liberty to walk through and guard Manhattan city. It was specifically the symbol of goodness (You Tube, 2012).

What definitely and theoretically depict how thus kinds of visual rhetorical images of the Statue of Liberty have been produced is no more than the metaphtonymy Interaction and diverse forms of rhetorical figures concerned, which fantastically contribute to the natural transfer of conceptual image to symbolic image building.

3. SYMBOLIC IMAGE OF THE STATUE OF LIBERTY: COGNITIVE INTERACTION BETWEEN METAPHOR AND METONYMY

When a form of symbol obtains the universal and social cognitive foundation, and carries certain identity discourse, it becomes the symbolic image (Liu, 2018). In the process of symbolic imagery transmission, the rhetorical device of interaction between metaphor and metonymy played a key role in processing the specific symbolic images of the Statue of Liberty. The metaphtonymy interaction involved mainly took an action in two domains with different modes of rhetorical figures as listed in figure 1, one is

single-domain visual metaphtonymy interaction, the other is double-domain visual metaphtonymy interaction.

3.1 Single-Domain Visual Metaphtonymy Interaction

Referring to the Function Model of Interaction between Metaphor and Metonymy showed as Figure 1, visual metonymy sometimes exert singly in the source domain or target domain of visual metaphor, as showed in *Saboteur*, *Titanic* and *Splash.*

As showed in *Saboteur,* the Lady Liberty was filmed as **the metaphorical object** to **witness and judge the punishment of villain**, which helps to successfully deliver its abstract symbolic meaning as **the truth and justice in American way** by means of the specific rhetorical figure of **visual connection-related replacement**. How has the replacement-like visual connection been realized? It might attribute to the breathtaking scene, where the bitter and fatal battle within the valiant and villain happened and ended on the Statue of Liberty, produced with kinds of shooting skills and techniques as well as exquisite director arts (Table 2). In this film, interaction between metaphor and metonymy explicitly took place in target domain of the metaphor processing in which the Statue of Liberty was exquisitely **associated** to the judge for punishing the evil, thus we theoretically regard it as one of the representatives of single-domain visual interaction of metaphtonymy.

As directed in *Titanic,* the Lady Liberty **implies hope of the heroine, a lady survival who** was an incoming immigrant finally reached the New York Harbor where she had ever dreamed forward, with the specific rhetorical figure of **visual connection-related replacement**, which definitely contributes to deliver its abstract symbolic meaning as **rescue of immigrant survivals.** How does this replacement-like visual connection take place? It might result in the meaningful scene, where the survival heroine stared with deep feeling at the Statue of Liberty once reached the New York Harbor after a heart-beating rescue, molded with simple but splendid direction and filming arts (Table 2). Like *Saboteur,* this film also interface **the lady survival** with **rescue of immigrant survivals** in target domain of the metaphor produce, thus we add it to another representative of single-domain visual interaction of metaphtonymy.

In *Splash,* the Lady Liberty **implies** hope of **the mermaid heroine** whose went ashore and transformed into a human stirred up and made an unprecedented surprise and even shocked the human on land to chaos and noise, with the specific rhetorical figure of **visual connection-related replacement**, which definitely give birth to its abstract symbolic meaning as **freedom and fresh start.** How does this replacement-like visual connection take an action? It might date back to the meaningful scene, where the naked mermaid was surrounded and welcomed to the human world. It

somehow means a fresh start with freedom in future, shaped with direct but exiting direction and filming arts (Table 2). Same as *Saboteur and Titanic,* this film also connect **the mermaid heroine** to **freedom and fresh star** in target domain of the metaphor workshop, thus we also include it in the mode of single-domain visual interaction of metaphtonymy.

Table 2
Screen-shot Example of Visual Connection-related Replacement

	Target Domain
	Visual Connection-related
Saboteur	
Titanic	
Splash	

3.2 Double-Domain Visual Metaphtonymy Interaction

In addition to visual metonymy that merely takes an action in the source domain or target domain of visual metaphor, it is more possibly to be detected that the active interaction between metaphor and metonymy always take place both in source and target domain of visual metaphor with different rhetorical devices such as visual connection-related replacement and fusion, visual opposition-related juxtaposition as well as connection-related juxtaposition.

3.2.1 Juxtaposition Mode of Visual Metaphtonymy Interatcion

Superman IV finely and specifically interprets the visual rhetorical image of Lady Liberty as a **weapon** that is used to fight for the truth and justice in American way

by means of having the metaphoric subject and object appeared simultaneously both in source and target domain of visual metaphor process (Table 3).

As showed in Table 3, The Statue of Liberty first appeared when nuclear man threw it off the city, which has successfully related Lady Liberty to weapon and especially given birth to the visual conflict between truth and untruth, justice and injustice **in metaphoric source domain**. Thereafter the Superman showed up and bravely defeated the evil and eventually got the Lady Liberty

and innocent city-citizen out of danger, which naturally connected superman to the truth and justice in American way **in metaphoric target domain, during which** superman and Lady Liberty were connected to be placed together and equipped with the same mission. Thus we call this kind of juxtaposition of conflict figures or belief the visual rhetorical device of juxtaposition-like visual opposition, while the kind of juxtaposition of comrade-in-arms like the Lady Liberty and the superman was defined as juxtaposition-like visual connection.

Table 3
Screen-shot Example of Juxtaposition Mode of Visual Metaphtonymy Interatcion

Source Domain	Target Domain
Visual Opposition	Visual Connection

3.2.2 Replacement Mode of Visual Metaphtonymy Interaction

As showed in Table 4, the interaction between metaphor and metonymy has been fully exerted in films like *Cloverfield, The Day After Tommorrow, Deep Impact and Planet of the Apes*, by using the visual rhetorical device of visual connection-related replacement in both metaphorical domains.

In *Cloverfied*, we can see the decapitated head of Lady Liberty flying down to New York Street, which fantastically stirred and shocked New Yorkers, and got the city stuck in an unprecedented trouble and horror. In some sense the decapitated head was associated with the incoming trouble and horror in metaphorical source domain and implies the unpredicted chaos and terror in New York City where Chao and trouble were undergoing in common metropolis people's life. Thus we can detect the replacement of decapitated head with chaos and horror happened **in metaphoric source domain** and then the trouble and chaos in New Your City was completely interfaced with the chaos and trouble of metropolis people **in metaphoric target domain.**

Despite of being viewed as the symbol of hope, the statue of liberty's destruction has happened more than once on film, *The Day After Tomorrow* uses that destruction as the sign of incoming natural disaster. She's hit by the giant tsunami and latterly can be seen completely frozen all over due to the extreme climate change that has occurred, during which, the destructed

Lady Liberty represents destroyed American city **in metaphoric source domain** and then predicts, **in metaphoric target domain**, the incoming deterioration and destruction of American's living environment or even global human's, due to human's breaking the ecologic balance. Both metonymic actions have happened in the substitution way of visual connection device.

Deep Impact saw the Statue swallowed also by the giant tsunami along the broken bridge and entire Ireland Manhattan, her decapitated head is later seen flowing down the street. Same as that in *Cloverfield and The Day After Tomorrow* , *Deep Impact* associated the destroyed Lady Liberty with destroyed American district **in metaphoric source domain** and then included the symbolic meaning of deterioration and destruction extending from American's living environment **to incoming global human's** living environment **in metaphoric target domain.** Both metonymic actions still took place in replacement way of visual connection.

The Statue of Liberty in *Planet of the Apes* is not symbol for hope but for disappear. The half-buried Lady Liberty is metonymically denotes the disappear of Tyler's dream of idea America **in metaphoric source domain** and then predicts, **in metaphoric target domain**, the disappear of American's or even global human's civilization, due to human's breaking the natural and social law. Thus both metonymy actions have happened in the replacement way of visual connection too.

Table 4
Screen-shot Example of Replacement Mode of Visual Metaphtonymy Interatcion

	Source Domain	Target Domain
	Visual Connection	Visual Connection
Cloverfied		
The Day After Tomorrow		
Deep Impact		
Planet of the Apes		

3.2.3 Fusion Mode of Visual Metaphtonymy Interaction

Differently, the Statue of Liberty in *X- Men* and *Ghostbusters* are used to convey its symbolic meaning not in replacement way but in fusion mode of interaction between metaphor and metonymy (Table 5).

Table 5
Screen-shot Example of Fusion Mode of Visual Metaphtonymy Interatcion

	Source Domain	Target Domain
	Visual Connection	Visual Connection
X- Men		
Ghostbusters		

As analyzed above, there appear three types of structure of visual metaphtonymy interaction with diverse meaning operations, together with which, Liu's Function Model of Interaction between Metaphor and Metonymy (in Figure 1) are specifically exemplified and proved by the most representative *Top Ten Film Appearances of the Statue of Liberty*. Additionally, the imagery of the Statue of Liberty has undergone three steps of promotion started with archetypal imagery as freedom and liberty, and then developed to conceptual imagery and at last to various symbolic images like hope, weapon and disappear. Crucially, it is necessary to develop Liu's model of interaction between metaphor and metonymy (2018) into a complete and merged cognitive function model by including a typology of cross-classification of meaning operation and visual structure (Phillips and McQuarrie , 2004) and persuasive function of three types of imagery based on Liu (2011).

In *X- Men,* the Statue of Liberty's climax is used to be the x-man who was trapped inside with giant magnet but eventually he freed himself, drove the evil out of the liberty and killed them with liberty's power. At the inspiring and exiting fighting moment, the Lady Liberty and the x-men merged into one figure that metonymically refers to **the weapon** closely linked the heroine or hero with the Statue **in metaphoric source domain** and then symbolizes, **in metaphoric target domain**, the supreme power of justice to defeat all evils who were intended to destroy the peace and harmony of human race. Thus both metonymic actions indeed worked **in the fusion way** of visual connection.

Like *X- Men, Ghostbusters* also involves metonymic rhetoric image in both metaphoric domains by stirring up and integrating the close visual connection between the metaphoric subjects and objects. **In metaphoric source domain**, **the Lady Liberty** was mobilized and used as an envoy that closely related to the school of **ghostbusters** who managed to prevent the strange monster evils from destroying American city. In some sense, Lady Liberty and ghostbuster were mixed and integrated into one huge figure that metonymically refers to **the weapon** which closely interfaced the heroes with the Statue **in metaphoric source domain.** Also, **in metaphoric target domain**, the integrated lady ghostbuster was molded as the defender of New York City with the symbolic meaning of the supreme courage and power to defeat those evils were intended to break the peace and harmony of human's life. It is the symbol of liberty and goodness in American way.

4. COGNITIVE FUNCTION MODEL OF INTERACTION BETWEEN METAPHOR AND METONYMY: AN ENRICHMENT OF LIU'S FUNCTION MODE

As a whole, Figure 2 below is a modification and enrichment of Liu's function model. It implanted three by three classification of meaning operation and visual structure adapted from Phillips & McQuarrie (2004) as the supplement of cognitive mechanism, and included three types of imagery along with its values transfer progress. If we regard Liu's function model as the core workshop of visual metaphor, various types of meaning operation and visual structure are more likely played as the key advanced tech or machine for metaphor production, while the imagery and values transfer, either good or bad, is an anticipated effect or end purpose, which can be viewed as a profit or non-profit spiritual products or assets in social media transmission.

4.1 Embedding Cognitive Interaction between Meaning Operation and Visual Structure

As mapped in Figure 2, we can integrate into Liu's function model the cognitive process of visual metonymy, namely cognitive interaction between meaning operation and visual structure, which always happens either in metaphoric source or target domain, or even operates in the both. It consists of two dimensions: one is visual structures covering such three possibilities as juxtaposition, fusion and replacement; the other is meaning operation which also contains three possibilities like visual connection, visual similarity and visual opposition. Two dimensions might be matched into night types of visual rhetorical figures, which can fully interpret and elaborate on the audience' psychological process of the meaning transfer beyond visual metaphor in filming top ten film appearances of the Statue of Liberty both in metaphoric source and target domain. Even though, merely four types of rhetorical figures have been exemplified in metaphtonymy interaction in this article, as showed in table 1, we still include the other five types of rhetorical figures in it, because they are more or less possibly used in profit or non-profit visual metaphor workshop and communication. Compared to the two by two cross-classification of meaning operation and visual structure that have been exemplified in **advertising** (Lagerwerf et al.,2012), this study finds that film communication are more intended to transfer metaphorical meaning through visual connection and opposition than visual **similarity that are more often used** in printed advertising transmission, but we cannot take it out of the general blueprint.

As exemplified in part three, among top ten representative appearances of the Statue of Liberty, **100% of visual metaphor processed in connection-related visual structure**: **one** out of ten appeared in **juxtaposition** mode, **seven** out of ten took place in **replacement** mode and **two** out ten showed in **fusion** mode. One exceptional film *Superman IV* involves both visual connection and opposition in juxtaposition mode. **Thus we can conclude that cross-interaction between meaning operation and visual structure played an essential role in visual metaphor producing.** It is evident that we could not discuss interaction between metonymy and metaphor

without taking rhetorical figures into concern. Therefore, It is necessary to bring various types of cross-interaction between meaning operation and visual structure into Liu's metaphtonymy interaction mode.

However, there still remains a big room for further researches on multimodal metaphtonogy interaction particularly from aspects of cognitive mechanism. For instance, we can build a multimodal corpus with all types of metaphtonymy interaction annotated and recorded, thus might result in big data of evidences to support Liu's model (2018) and enrich its connotation in psychologically cognitive sense. Also we can focus more on the practical use of this refined model in meaningful social communication

for a long run. **Particularly**, we are surprised to find that **the whole process of visual metaphor producing is mostly and effectively decided by the initial or anticipated purpose for transmission.** In other words, the anticipated target values and imagery transfer fantastically decide the cognitive function mode of visual metaphor transfer, and it actually involves what and how rhetorical figures are employed. That is why the following map of persuasive imagery and values transfer are in need to be added to Liu's workshop-like function mode.

4.2 Adding Progressive Cognition of Persuasive Imagery and Values Communication
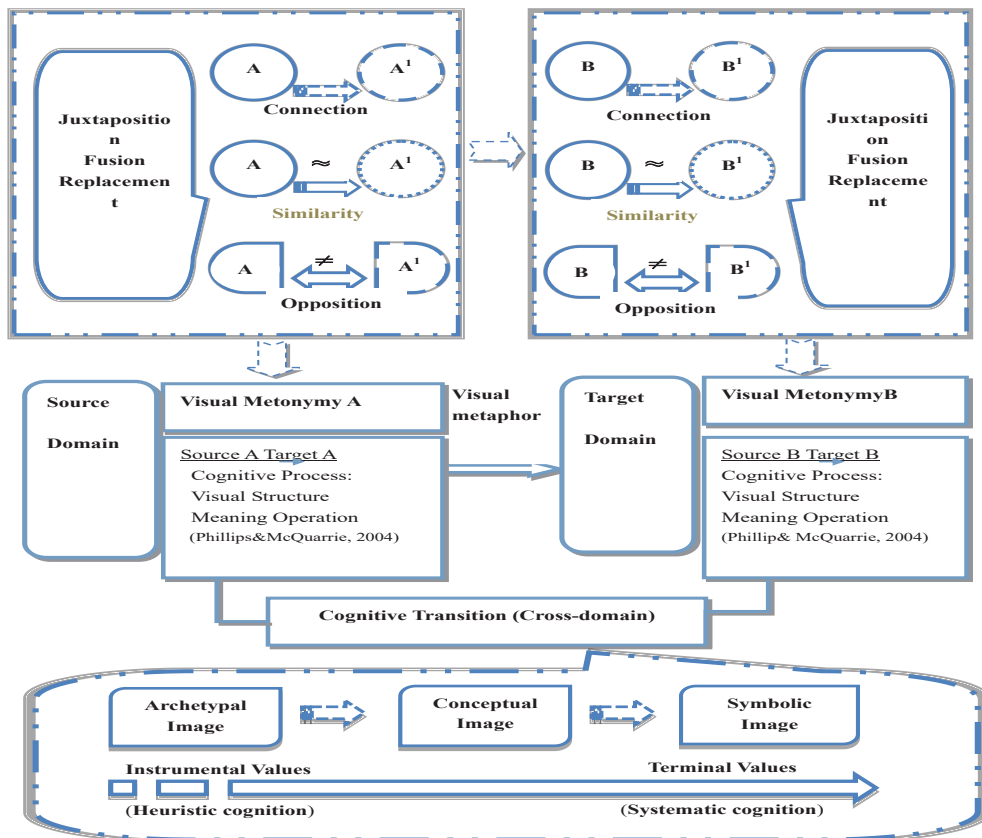
Figure 2
The Cognitive Function Model of Interaction between Metaphor and Metonymy (adapted from Liu[b], 2018; Phillips & McQuarrie, 2004)

As exemplified in this study, along with the cross-interaction of meaning operation and visual structure that often happened either in metaphorical source domain or target domain, the target imagery transfer had undergone three leaps: it often **starts with** the archetypal imagery that usually rooted in social daily life experience and have had shared understanding; When the common shared image had been pictured or photographed on the show, it gradually developed into **conceptual imagery** from its archetypal imagery; when conceptual imagery have been processed with kinds of rhetorical devices like rhetorical

figures and filming technics, it will be progressively transformed into a more stable and popularly-accepted symbolic imagery. Meanwhile, we can also witness the values transfer from instrumental values of heuristic cognition to terminal values of systematic cognition.

As detailed in this study of top ten representative appearances of the Statue of Liberty, we can have an in-depth perception of the progressive values transfer and implanting.

In regard to the theme of romance and love, like *Splash and Titanic*, they managed to spread the terminal values

of freedom and happiness by advocating being brave to
hold on one's own belief in *the latter*, being open-minded
to welcome the fresh start in the former.

With respect to the theme of natural disaster, like *The
Day After Tomorrow* and *Deep Impact*, they are intended
to deliver the terminal values of harmony and security
by advocating being responsible and self-controlled not
to destroy natural and ecological balance but strive to
safeguard the global garden in both films.

As for the theme of defeating the evil, like *Superman
IV*, *X-MEN* and *Ghostbusters*, they are in the purpose of
transmitting the terminal values of salvation and peace
by advocating being upright, conscientious, philanthropic
and brave to fight against the evil and prevent the human
race from any invasion.

When it comes to the destroy and destruction like
Cloverfield and *Saboteur,* they aims to propagate the
terminal values of internal harmony, friendship, goodness
and justice by advocating being generous, intelligent
and brave to iron out the chaos and defend the truth and
justice.

Regarding the disappear that has been discussed in
representative film like *Planet of the Apes*, It is inclined
to convey the terminal values of dream and beauty
by advocating being resilient, persevering, bold and
ambitious to seek for the purity and beauty in the world.

Above all, the two levels of values transfer are in line
with the promotion of three types of imagery transmission.
When imagery develops along with the plot progress,
values are undergoing subtle promotion and sublimation
as illustrated in Figure 2.

4.3 Value and Significance
This modified model not only enriched and activated
Liu's creative model and the typology of visual rhetoric
figures created by Phillips and McQuarrie (2004), but
also brought into psychological cognition mechanism of
values transmission. They collaboratively worked well
as a whole system to enlighten further researches on
visual rhetoric. We can compare this merged systematic
model as a factory of visual metaphor: **Liu's function
model** can be worked as a hardware necessity, seems
as the production line with advanced equipment; **visual
rhetoric figures** might functioned as a software necessity,
just like materials and exquisite crafts and techniques;
psychological cognition progress of values transfer,
in some sense, is a target spiritual product, progressively
embedded in visual material products, like top ten film
appearances of the Statue of Liberty.

4.3.1 Guiding Audience' Critical Thinking and Rational Judgment
From the perspective of audience, this modified model, as
showed in Figure 2, might be worked as guidance for the
audience to develop critical thinking and make rational
judgment of the values transfer. Under this theoretical

guidance, the audience might penetrate the surface of the
stuff, wisely figure out and then make a right decision on
whether the target imagery and values is worthy of taking
in and internalized or not.

As the nuclear part of this modified model,
metaphtonymy interaction mode helps the audience out
of confusions about **where** visual metaphor produced and
gives answer to **what** is the hardware necessity in visual
rhetorical factory.

Kinds of rhetorical figures facilitate the audience'
understanding of how visual metaphor created through
cross-interaction of meaning operation and visual structure
and gives answer to **what** is the software necessity in
visual rhetorical factory.

In especial, psychological cognition mode of
progressive imagery and values transfer may benefit to
unveil the truth or secret that really hided in the process
of visual metaphor production and gives answer to **why**
visual metaphor is so technically Produced. For instance,
when we keep an eye on the visual metaphor products
like top ten film appearances of the Statue of Liberty,
the psychological cognition mode will help us identify
what true values is on the way to invade our minds and
helpfully prevent us from being infected with unhealthy
values .

4.3.2 Improving Visual Products' Quality
From the perspective of **visual metaphor producers**,
this modified model, as showed in Figure 2, works to
enlighten and sparkle producers' creative thinking in
amplifying the circulation of the target visual products
and increasing the quality itself. Under this theoretical
guidance, the producer might set a clear objective and
draw a delicate and well-designed blueprint to produce a
high quality of visual metaphor transfer.

In detail, with the metaphtonymy interaction mode, the
core of this modified model, **Producers** can make a wise
choice of the domain where meatphtonymy interaction
will take an action to serve the topic of this visual product.
Also they can determine what types of cross-interaction
of visual structure and meaning operation will possibly
contribute to the target imagery transfer.

Particularly, it is the psychological cognition mode
of values transfer that intelligently provides producers a
more feasible theoretical instruction to effectively implant
the target values in visual metaphor processing. Definitely,
this modified model des good to promote the quality of
the target visual products.

4.3.3 Assisting GAPP' s Effective Administration
Besides being beneficial to guide audience' critical
thinking and rational Judgment of either the values
concerned is good or bad, this modified model can not
only be used to improve visual products' quality, but also
can act as an assistant to give helps to the government
concerned like General Administration of Press and

Publication in identifying the healthy and positive values from unhealthy and negative one. Due to GAPP's duty to give no permission to those visual products attached with unhealthy social values, this modified model might provide them a police-like glass to successfully weed out any visual products with unhealthy social values. It might attributed to the psychological cognition mode of imagery and values transfer, so-called spiritual products of visual metaphor factory, together with metaphtonymy interaction with various types rhetorical figures that official supervisors can intelligently differentiate bad quality visual products and firmly say no to them.

CONCLUSION

To sum up, as the icon of the United States, the Statue of Liberty was originally a symbol of freedom, but when it is pictured and photographed on the screen, it gets to have its conceptual meaning of an icon, and then extended to diverse symbolic meaning of democracy, opportunity, friendship, and progress or any other. Due to its important historical significance it has been drawn to the top ten films where the Lady Liberty has been molded as both positive and pessimistic visual rhetoric images like an **icon** in *Splash , Titanic, The Day After Tomorrow, Deep Impact*, a symbol of **weapon** in *Superman IV, X-MEN* and *Ghostbusters*, as well as **the disappear and destruction** in *Planet of the Apes, Cloverfield* and *Saboteur*. With regard to how these visual rhetoric images produced, It can be theoretically refer to nine rhetorical figures and the function model of interaction between metaphor and metonymy (from Liu[b], 2018), with which an active process of profound visual rhetoric image of the Statue of Liberty have been fully interpreted in the process of single-domain and double-domain visual metaphtonymy interaction. It deserves to mention that such diverse visual rhetorical figures have been played significant roles in successfully building different types of visual rhetoric images of Lady Liberty, as visual connection-related fusion in *X-Men* and *Ghostbusters,* visual opposition-related juxtaposition and visual connection-related juxtaposition in *Superman IV*, apart from visual connection-related replacement in the other seven films. This study finely proofed and enriched Liu's function model and rebuild a systematic cognitive function model of metaphtonymy interaction. In some sense, the refined function model might open up the following scholar's mind in further visual rhetorical study. It presents significant reference for the audience to develop critical thinking and rational judgment of transferred cultural imagery land values, and also contributes to improve visual products quality and assist **GAPP' s** effective administration and supervision of visual products' quality.

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