Metonymy in Visual Images of Anti-Pollution Advertisements

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Abstract

Since Forceville (2007, 2008, 2009) proposed the notion of multimodal metaphor, visual metaphors in advertisements have been extensively documented. However, research on visual metonymies remains relatively rare. We focused on visual metonymies in 100 anti-pollution advertisements, finding that PATIENT FOR EVENT is the most used in such kinds of advertisements. Effects more readily serve as metonymic vehicles than causes, but CAUSE FOR EFFECT metonymy and EFFECT FOR CAUSE metonymy always appear at the same time.

Key words: Metonymy in visual images; Anti-pollution advertisements; ICM

PATIENT FOR EVENT, EFFECT FOR CAUSE

1. INTRODUCTION

The study of metonymy can be traced back to the fifth century B.C. Like metaphor, it has been traditionally treated as a figure of speech realized through "the transfer of the name of a thing to something else that is closely associated with it" (Bredin, 1984).

In 1980, Lakoff and Johnson first used it in their study of cognitive linguistics in the book *Metaphors We Live By*. They rejected the traditional rhetorical view and proposed that metonymy, like metaphor, can be seen as a psychological mechanism that forms the basis of many human concepts, not merely words (Kövecses and Radden, 1998). Lakoff and Johnson (1980) illustrated conceptual metonymy with a famous example:

1.1 We Need Some Good Heads

The head is the most important part of human body, joining the trunk with the neck; at the same time, it represents a person's intelligence or the brain in their head. Therefore, there is a conceptual metonymy in the sentence, THE HEAD FOR THE INTELLIGENT PERSON. We can also find contiguous relations in it: intelligence—brain—head—person.

Lakoff (1987) accounted for metonymic contiguity within the framework of idealized cognitive models (ICMs). Based on the explanation, Radden and Kövecses (1999) defined metonymy as a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same ICMs.

At first, the study of metaphor covered and shadowed the study of metonymy. Cognitive linguists mainly defined metonymy in comparison with metaphor in the early 1980s. It was only in the 1990s that metonymy gradually started to attract the interest of cognitive linguists such as Gooseens (1990), Croft (1993), Panther and Radden (1999), and Barcelona (2000). The growing number of publications on this topic provide a theoretical foundation for the study of metonymy and show us many research perspectives. However, most of them focus on verbal metonymy, ignoring that, as a way of thinking, metonymy is also universal in visual communication.

Advertisements, including both commercial and public service ones, are the actions of making something generally known through a combination of verbal or

nonverbal means. To attract the audience, advertisements attempt to make efficient use of visual images that are intuitive and efficient and can resonate with audience members' life experiences. Metonymy, which can shift our view from one entity to a related one, is always employed to express abstract concepts in visual images instead of specific verbal expressions. For example, the picture of "Uncle Sam" can be used to refer to the government or the people of the United States instead of using a long, wordy paragraph. We can also use an iceberg to activate the audience's relevant knowledge in their ICMs and evoke the coldness of the Antarctic.

Advertisements have become a fruitful space for multimodal metaphor production and scholarly study since Forceville (2008) proposed the notion of multimodal metaphor. However, it is a pity that different from metaphor, metonymy in advertising is still a fairly unexplored cognitive phenomenon. A few illustrative exceptions are Forceville (2009), Villacanas and White (2013), Alousque (2015), Sobrino (2017), and Choi (2017). Among them, the most inspired one is Choi's research on metonymy in visual images of anti-smoking advertisements. She found that anti-smoking advertisements use the EFFECT FOR CAUSE and INSTRUMENT FOR EVENT metonymies most frequently and, in many cases, create metonymy chains (Choi, 2017).

Following Choi's (2017) research, this paper aims to proceed with a study of cognitive metonymy in anti-pollution advertisements to find specific metonymies with high frequencies and to explore the embedded reasons.

2. RESEARCH METHOD

As a major source of health risk, pollution has raised widespread concerns worldwide. With the gradual increase in environmental awareness, anti-pollution public service advertisements are being seen everywhere. We searched google.com.hk for the keywords "anti-pollution public service advertisements" and obtained 100 pictures in a random fashion as our research objects.

Examining them in detail, we found that these pictures were published in the United States, China, India, and Korea, or by World Health Organization (WHO); and that they covered air pollution, water pollution, and plastic pollution. According to the main ideas these advertisements conveyed, we divided them into six types.

1) The result of pollution is death.
(POLLUTION IS DEATH)
2) The result of pollution is disease.
(POLLUTION IS DISEASE)
3) The pollutant will become the food of animals or human beings eventually.
(POLLUTANT IS UNSAFE FOOD)
4) Pollution will cause disaster.

(POLLUTION IS DISASTER)
5) Pollution is as harmful as a virus.
(POLLUTION IS VIRUS)
6) The human being must fight against pollution.
(POLLUTION IS WAR)

The third step was to scrutinize the selected anti-pollution advertisements one by one and classify the metonymies involved in them. Then, we obtained the distribution of different types of metonymies, as shown in Table 1. Most of the time, there was more than one metonymy in the same advertisement. We sifted the obvious metonymies for the research and obtained eight metonymic patterns and 307 tokens in total. The top four ones were PATIENT FOR EVENT, EFFECT FOR CAUSE, CAUSE FOR EFFECT, and INSTRUMENT FOR EVENT, which sometimes appeared alone or in combination in one picture.

Table 1
Distribution of different types of metonymies

Types of metonymies	Token	Percentage
Patient for event	82	26.7%
Effect for cause	64	20.8%
Instrument for event	57	18.6%
Cause for effect	49	16%
Specific for generic	22	7.2%
Member for category	20	6.5%
Property for category	13	4.2%
Total	231	100%

3. METONYMY IN THE ANTI-POLLUTION ADVERTISEMENTS
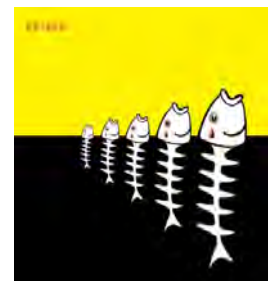
3.1 Pollution Is Death

According to BBC News, on October 20, 2017, pollution was linked to one in six deaths. These data provide evidence that pollution threatens human life and causes death. Therefore, it is no surprise that there are many advertisements connecting pollution with death metaphorically. These advertisements use different metonymic patterns to highlight diverse aspects of the event of death.

3.1.1 Patient For Event

(1)　　　　　a　　　　　　　　b

c

Source: a: https://www.freddyandnaved.com/#/798817030644/;
b: http://news.sohu.com/20070417/n249503393.shtml;
c: https://www.pinterest.com/pin/527836018799853439/?d=t&mt=l ogin

The metonymy PATIENT FOR EVENT was found in the above three advertisements.

(1a) claims that air pollution is the fifth biggest killer because of highly toxic pollutants. The dying man hanging on the rope represents human beings being killed by toxic pollutants in the air.
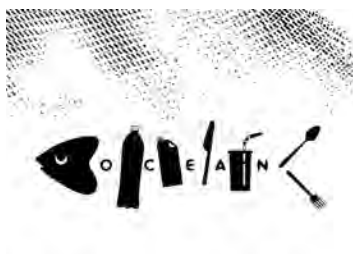
Today, pollution is present in not only air but also water and soil. All species on earth are victims of pollution, including aquatic animals and plants. (1b) and (1c) depict victims of water pollution and soil pollution separately and activate readers' awareness that water pollution and soil pollution are harmful.

3.2.2 Effect for Cause
(2)   a   b

Source: a: https://www.depositphotos.com;
b: https://www.charterworld.com/news/yachts-fighting-plastic-pollution-seakeepers-research-initiative-sarah

(2a) and (2b) express the metonymy EFFECT FOR CAUSE. In these two advertisements, a skull and skeleton are used to depict death. In (2a), the human skull is made up of plastic bottles, indicating that plastic pollution was the reason for the man's death. In (2b), the chemical test tubes that make up the bones of the fish and the words in the picture "chemical pollution" express the idea that water pollution caused the fish's death.

3.2.3 Cause for Effect
Water pollution is not a problem any single country faces. Many people do not have access to safe and clean drinking water. This picture depicts a child's head and a skull to highlight the problem of water pollution. The skull reflected in the dirty water emphasizes that the victims are children and reveals the cause of death, water pollution. It is difficult to express the abstract notion that water pollution can lead to death in a visual image, so the advertisement uses the metonymy CAUSE FOR EFFECT to warn the readers about the harmful effects of dirty water.

(3)   a

Source: https://news.v.daum.net/v/20100928192004440?s=print_news

3.2.4 Instrument for Event
(4)   a   b

Source: a: https://www.freddyandnaved.com/#/798817030644/;
b: https://m.blog.naver.com/PostView.naver?isHttpsRedirect=true& blogId=jung6326&logNo=220962942525

The rope and the gun in these two pictures are lethal tools. The rope around the man's neck and the smoking gun are killing instruments. The obvious metonymy INSTRUMENT FOR EVENT helps these advertisements highlight the harmful effects of air pollution.
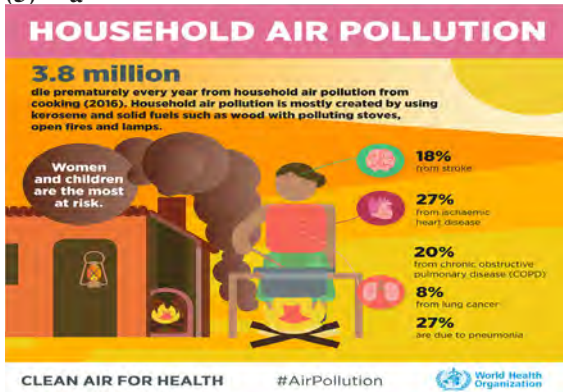
3.2. Pollution Is Disease
As early as 2003, scientists found that exposure to environmental pollution remains a major source of health risk throughout the world (Briggs, 2003). Public service advertisements have an important mission to popularize these research findings. Therefore, these kinds of advertisementsare common.
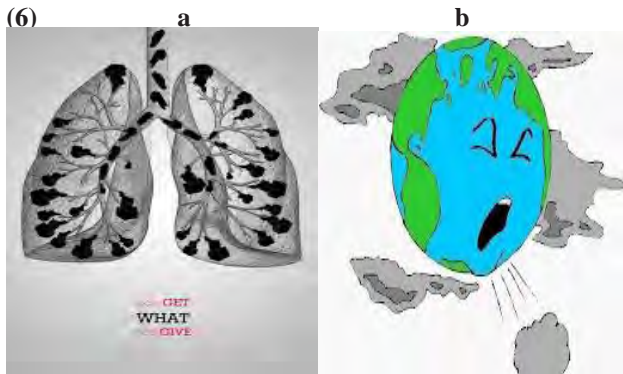
3.2.1 Patient for Event
(5) A is an advertisement the World Health Organization published in 2016. According to it, 3.8 million people die every year from household air pollution caused by cooking. The image of the cooking woman in the picture indicates that women are most at risk from this kind of air pollution. The picture further shows that the polluted air during cooking can injure our brain, heart, and liver. Therefore, the metonymy PATIENT FOR EVENT is used on the surface and in detail in 5(a) to persuade us to reduce household air pollution.

(5)   a

Source: https://www.flickr.com/photos/diethylstilbestrol/41992673765

3.2.2 Effect for Cause
(6)   a   b

Source: a: https://www.sohu.com/203696610_99992013; b: https://cuidarelmedioambiente2.wordpress.com/2012/11/28/factores-naturales-contaminacion/

Air pollution is most harmful to the lungs. Shadows in the lungs and coughing typically characterize lung disease. The first picture shows a diseased lung full of pollutant-like shadows, whereas the second shows a coughing earth surrounded by polluted air. The metonymy EFFECT FOR CAUSE reminds us of the cause of the disease—pollutants in the air.

3.2.3 Cause for Effect
(7)   a

Source: https://www.flickr.com/photos/diethylstilbestrol/41992673765
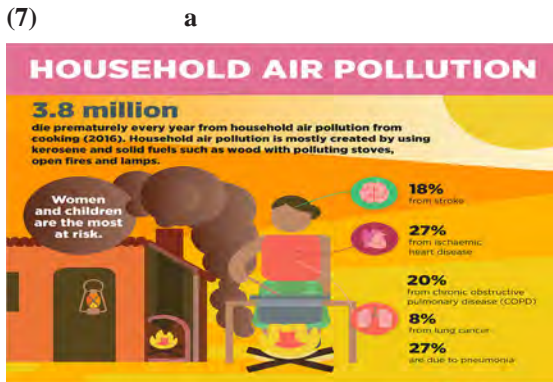
Besides PATIENT FOR EVENT, the metonymy CAUSE FOR EFFECT appears in this picture. The open fire, simple stove, and kerosene lamp represent inefficient burning (CAUSE) that leads to high levels of household air pollution and excessive pollutants that damage our health (EFFECT). These health-damaging pollutants become the CAUSE for illness and are attributable to household air pollution (EFFECT). This metonymy chain explains the impact of household air pollution on human health.

3.3. Pollutant Is Unsafe Food
Nature is an ecological system where human beings, animals, and plants are integral. The pollutants human beings produce become a part of the ecological cycle, are absorbed by plants or become food for animals, and eventually end up on our dinner tables. These foods inevitably contain a large number of harmful substances. To explain this complex process intuitively to citizens, many advertisements have been published.

3.3.1 Patient for Event
(8)   a   b

Source: a& b: https://kwangjae.com/348
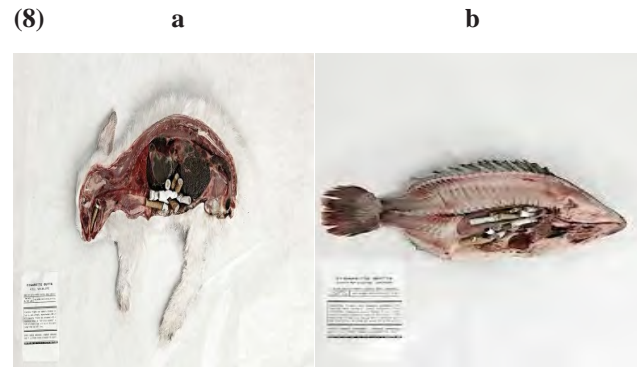
The rabbit in (7a) and the fish in (7b) died from the pollutants they ate, which contained a range of toxic substances. They were victims of the process of pollution. The metonymy PATIENT FOR EVENT activates readers' knowledge in ICMs in these two advertisements, reminding them of the evils of pollution and the need to reduce it.

3.3.2 Effect for Cause
(9)   a

Source: https://www.surfrider.org/coastal-blog/entry/new-rise-above-plastics-print-psas-from-pollinate

Recently, plastic pollution has become a significant environmental concern for scientists, environmentalists, and even common people. Plastic waste degrades into micro plastic and migrates to the soil or ocean, negatively affecting ecosystems and wildlife through ingestion of plants or marine fauna. Though this process is long and complex, it always ends at our dinner tables. Sushi made of plastic and rice in the picture represents polluted food as the EFFECT that serves as a vehicle for pollution.

3.3.3 Cause for Effect

(10)   a

Source: https://ehp.niehs.nih.gov/doi/10.1289/ehp.123-a34
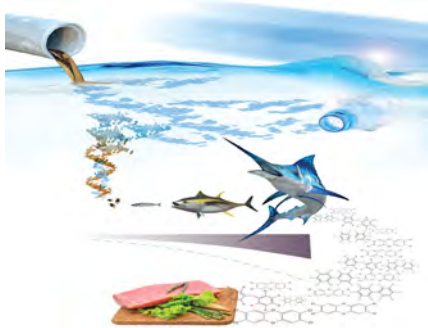
This advertisement reveals a new link in the food chain and the cause of unsafe food. With sunlight and oxidation, dirty water and plastic waste that reach the ocean degrade further and release chemicals or plasticizers. They enter the bodies of fish, which human consume. The brown water, plastic bottle, and chemical formula are the CAUSE of the unsafe food (EFFECT).

3.4 Pollution Is Disaster

Pollution, especially carbon emissions, leads to climate change. Climate change affects humans in many ways, such as heat, natural disasters, and variable rainfall patterns, triggering different patterns of infection. Numerous advertisements call on us to reduce emissions caused by greenhouse gases through better transport, food, and energy-use choices.

3.4.1 Patient For Event

(11) a

Source: www.carbonfund.org

Pollution and climate change will bring global disaster. Take polar bears, for example. They are losing their natural habitats and becoming vulnerable to diseases caused by global warming (Harvell et al., 2002). Polar bears are victims of pollution. The "melting polar bear" in this picture is the PATIENT calling on people to reduce carbon emissions and expand clean energy use.

3.4.2 Effect for Cause

(12)   a

Source: www.studymaster.in

Rising temperatures and a shortage of rainfall because of climate change will lead to drought. The endless stretches of dry land in the advertisement show us the visual EFFECT of drought. This heavy effect successfully indicates the cause of the disaster.

3.5 Pollution Is Virus

Viruses are ubiquitous, spread rapidly, endanger human health, bring diseases, and even lead to death. Like viruses, pollution is everywhere and can spread rapidly. Therefore, POLLUTION IS VIRUS is a prevailing theme in anti-pollution advertisements.

3.5.1 Cause for Effect

(13)   a
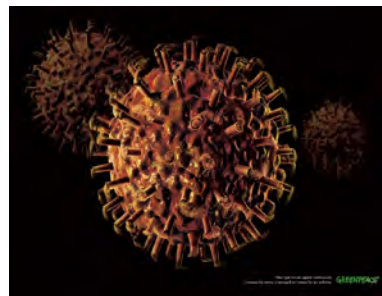
Source: https://www.16pic.com/zhanban/pic_418751.html

We can find the metonymy CAUSE FOR EFFECT in this advertisement. This is a "virus" composed of smoking chimneys. The chimneys make the reader think of air pollution and its harmful effects. The chimney thus serves as a vehicle to map the target, the EFFECT of air pollution.

3.6 Pollution Is War

Pollution is considered a grave threat and planetary enemy. Many countries view pollution as a lethal enemy that must be defeated. Thus, we find the metonymy POLLUTION IS WAR in a number of advertisements.

3.6.1 Patient for Event

(14)   a

Source: https://www.flickr.com/photos/46979534@N07/

The well-protected human in this advertisement is a soldier fighting against the enemy, pollution, to save our air. However, a human who cannot breathe freely is a victim of pollution. This advertisement employs the "soldier in full battle gear" (PATIENT) metonymy to refer to the war against pollution.

3.6.2 Effect for Cause

(15)   a   b

Source: https://blog.breezometer.com/ngos-fighting-air-pollution

The metonymy EFFECT FOR CAUSE is seen in this advertisement. Smoke from factories and the mask on face indicate the presence of heavy pollution (EFFECT) and give us reasons (CAUSE) to fight against pollution.

3.6.3 Cause for Effect

The metonymy CAUSE FOR EFFECT can also be seen in the above two pictures. Heavy smoke from factories contains toxic pollutants that prevent humans from breathing freely. This is the CAUSE of the war against pollution (EFFECT).

3.6.4 Instrument for Event

(16)   a   b

Source: a: https://m.blog.naver.com/PostView.naver?isHttpsRedirect =true&blogId=jung6326&logNo=220962942525; b: https://iletaitunepub.fr/2021/01/31/5-campagnes-publicitaires-creatives-protection-environnement/

These two advertisements vividly depict pollution as a war using the metonymy INSTRUMENT FOR EVENT. The chimney in (16a) becomes a gun. In (16b), automobile exhaust is presented as smoke from an atomic explosion. These two lethal instruments refer to pollution as a war metonymically.

4. CONCLUSION

Following Choi's (2017) research, we conducted a systematic analysis of metonymy in anti-pollution advertisements. We obtained the following findings:

First, PATIENT FOR EVENT, EFFECT FOR CAUSE, CAUSE FOR EFFECT, and INSTRUMENT FOR EVENT are prevailing in anti-pollution advertisements. They indicate the victims of pollution, the harmful effects of pollution, and the reasons for pollution in a vivid and intuitive way.

Second, different from Choi's (2017) result, in anti-pollution advertisements, the metonymy PATIENT FOR EVENT is at the top of the list of the distributions of different types of metonymies. Though smoking and pollution are both harmful to human health, pollution is a worldwide problem and a grave threat to every creature on earth. The advertisements depict victims in different situations, such as death, disease, and war. These victims' figures, including fish, rabbits, women, and children, are common and relevant to ordinary people. The advertisements show us who is most injured by pollution, raising awareness of environmental protection easily and successfully.

Third, casual metonymy is a topic that deserves our attention. Our findings align with Raddenand Kövecses's (2007) finding that effects more readily serve as metonymic vehicles than causes. We speculate that this is because the destructive effect of pollution is more shocking and persuasive. Besides, in some of the advertisements, the CAUSE FOR EFFECT metonymy and EFFECT FOR CAUSE metonymy always appear at the same time.

In line with Choi's (2017) findings, we find metonymic chains in these kinds of advertisements. A metonymy will activate readers' relevant knowledge in their ICMs as much as possible. Advertisements can benefit these characteristics to express an idea as economically as possible.

In the end, although the advertisements were from different countries, the metonymies they presented tended to be similar. Same or similar social experiences are encoded in anti-pollution advertisements, so they have similar metonymies as well.

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