

Shadow incongruity in advertising

The effect of shadow incongruity on relational strength,
aesthetic appreciation and message acceptance.

Name: Cirano Verkade

SNR: 2005195

First reader: Joost Schilperoord

Second reader: Neil Cohn

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Abstract

Goal To empirically examine the effect of one of the shadow incongruity types drafted by Schilperoord and van Weelden (2017) in terms of relational strength, aesthetic appreciation and message acceptance.

Theoretical Framework Schilperoord and van Weelden (2017) have recently drafted a model wherein they distinguished between different shadow incongruities. An incongruity in an advertisement occurs when something doesn't fit in its location or situation on purpose. A shadow incongruity occurs when the thing that doesn't fit in its location or situation is centred around the shadow. In this thesis the effect of one shadow incongruity type on relational strength, aesthetic appreciation and message acceptance is examined. The effect of message framing (positive versus negative) in incongruent shadow advertising is also examined.

Method A 2 (positive versus negative frame) x 2 (shadow versus juxtaposition) Latin square within-subjects design was used for this study. A total of 169 persons participated. A survey was sent to the participants via e-mail. The participants had to answer questions on a 7-point Likert scale. They also had to perform a forced choice task.

Results The results show that there is an effect of visual structure on relational strength, aesthetic appreciation and message acceptance. The relational strength between two entities in one advertisement is significantly higher for shadow incongruities than for the visual structure juxtaposition. However, this was only found in one study in this thesis. Aesthetic appreciation and message acceptance both scored significantly higher in the shadow incongruity condition. Message framing had no significant effect on message acceptance in incongruent advertising, but was significant for relational strength and aesthetic appreciation.

Discussion Future research should focus on other shadow incongruity types. Shadow incongruity types should also be compared with other visual structures than juxtaposition.

Table of Contents

1. Introduction	4
2. Theoretical Framework	8
2.1 A typology of visual rhetoric in advertising	8
2.2 A brief history of cast shadows	10
2.3 Shadow incongruity	13
2.3.1 Structure of shadow incongruity	13
2.3.2 Resolving Incongruities	14
2.3.3 Three shadow incongruity types	15
2.3.3.1 Type I shadow incongruities	15
2.3.3.2 Type II shadow incongruities	16
2.3.3.3 Type III shadow incongruities	17
2.3.4 Overview of shadow incongruity types	18
2.3.5 Focus on type I shadow incongruities	18
2.4 Message framing in advertising	19
2.5 Hypotheses	21
2.5.1 Juxtaposition and relational strength	22
2.5.2 Aesthetic Appreciation	24
2.5.3 Message acceptance	25
3. Method	26
3.1 Design	26
3.2 Materials	26
3.2.1 Manipulation of the independent variables	26
3.2.2 Instruments	29
3.2.3 Manipulation check	30
3.3 Participants	30
3.4 Procedure	31
4. Results	32
4.1 Relational Strength	32
4.1.1 Relational strength: forced choice task	32
4.2 Aesthetic Appreciation	33
4.3 Message acceptance	35
4.4 Overview hypotheses	36
5. Conclusion and Discussion	37
5.1 Discussion of the results	37
5.1.1 Relational strength	37
5.1.2 Aesthetic appreciation	38
5.1.3 Message acceptance	39
5.2 Limitations	40
5.3 Future research	41
Literature	42
Appendix A	46

1. Introduction

Pictures are becoming more and more important in the advertising industry. In print ads, the emphasis on pictures over words has steadily increased throughout the last century (Philips & McQuarrie, 2003). Advertising relies, relative to other contemporary forms of human communication, on pictures to persuade (Philips & McQuarrie, 2004). There are several roles pictures can play in advertisements. Messaris (1997) has outlined three major roles that pictures can play in an advertisement and how these roles distinguish them from language and the other modes of human communication. Pictures can, according to Messaris (1997), elicit emotions by simulating the appearance of a real person or object; they can serve as a photographic proof that something really did happen; and they can establish an implicit link between the thing that is being sold and some other image. Apart from the fact that pictures have become more important throughout the last century, marketers have also changed the way in which they communicate with viewers of an advertisement.

Nowadays, marketers have adopted a two-way communication model wherein the viewer of an advertisement is equally as important to constructing meaning as the marketer who created the message (Liu & Shrum, 2013). This means that advertisements are created in such a way that viewers are able to interpret messages in various ways. Advertisements have become more creative and innovative, and call for active participation of the viewers in order to decode the intended meaning (Proctor, Proctor & Papasolomou, 2002). One innovative way to create advertisements that call for active participation is to create some sort of incongruity in an advertisement that displays some departure from viewers' expectations and their understanding of reality (Schilperoord and van Weelden, 2017). An incongruity in advertising occurs when something doesn't fit in its location or situation on purpose. McQuarrie and Mick (1999) characterize such advertisements as 'artful deviations relative to audience expectation'.

Incongruent pictures in advertisements have been examined quite often over the past years. Forceville (1996) has categorized incongruent images in terms of their structure and Philips and McQuarrie (2004) created a typology that distinguishes nine forms of incongruity according to their degree of complexity and ambiguity. A lot of experiments have been conducted based on the categorizations of Forceville (1996) and Philips and McQuarrie (2004). Though these studies all concerned incongruity in advertisements in some form, the

role of *incongruent shadows* in advertisements has been scarcely examined. Shadow advertising, wherein an ad revolves around a light source, a caster and its shadow, are quite common in contemporary advertising. Incongruent shadows, or rhetorical shadows, invite the construction of meaning, and rather than being a mere natural companion of their casters, they reveal things about their casters in a way that deviates from a viewer's prior knowledge (Schilperoord & van Weelden, 2017).

Not all the shadow incongruity advertisements deviate from reality in the same way. Consider figure 1. In the advertisement on the left the shadow of the man is the same as the caster, but in a different pose. In the advertisement on the right the man's shadow is casted on the right as well as on the left of the pedestrian crossing. With the presence of only one light source this shadow depiction is impossible. Both shadow depictions in the advertisements are impossible, but in different ways.



Figure 1: two shadow incongruity advertisements

Schilperoord and van Weelden (2017) have created a typology to classify shadow incongruities in terms of how they deviate from reality. However, how these shadow incongruity types affect consumer processing and response has not been examined yet.

In this thesis the focus will be placed on one shadow incongruity type as drafted by Schilperoord and van Weelden (2017). This shadow type is referred to as *the revealing shadow* (type I), whereby the shadow reveals something about the caster. In figure 2a a caster (a Lego construction) and a shadow (a boat) are visible. The shadow appears to tell something about the caster: the Lego construction is actually a boat and not just some stacked Lego blocks. This form of advertising is different to other incongruent advertisements and even different than other types of shadow incongruities. In this thesis the effect of type I shadow incongruities on consumer processing and response will be

examined. Type I shadow incongruity will be compared with another visual structure: juxtaposition (Philips and McQuarrie, 2004) (figure 2b). This is a commonly used visual structure in advertising whereby two separated entities are presented in one single image (figure 2b). The two structures (shadow incongruities and juxtaposition) will be compared in terms of their effect on aesthetic appreciation, relational strength and message acceptance.



Figure 2a: Type I shadow incongruity Figure 2b: The visual structure juxtaposition

A feature of type I shadow incongruities is that the casted shadow always seem to have a *valence* (positive or negative). A revelation of the true nature of an object is always loaded with a positive or negative valence. Products or services can be advertised as a means to promote something positive or as a means to prevent something negative. Though positivity and negativity in advertisements have been studied before in the field of marketing (Zhang & Buda, 1999), the role of valence in incongruent advertising has not been examined yet. In this thesis the effect of valence in shadow incongruity advertising on consumer processing and response will be examined as well.

From a social perspective it is important to examine the opportunities shadow incongruities have to offer. Consumers are constantly demanding for innovative and creative advertisements and shadow incongruities offer the possibility for advertising innovation. Advertising managers can use the results of this thesis for advertising strategies in order to draw attention from potential customers and to create and enhance long-lasting relationship with customers. From a scientific perspective it is important to empirically examine the shadow incongruity types as drafted by Schilperoord and van Weelden (2017). There are already more than 200 advertisements with a shadow incongruity and companies are starting to use them more and more. Schilperoord has collected more than 150 shadow incongruity advertisements in three private databases. Several other series of advertisements were not included in his databases, for example some advertisements

created by the World Wildlife Fund, McDonalds and Gatorade. It is important to examine the effect of these shadow incongruities on consumer processing and response.

In the following chapter shadow incongruities will be explained in further detail. First, the position of shadow incongruities in the already existing visual structure model of Philips and McQuarrie (2004) will be described. Second, a brief description will be given of the history of shadow incongruities in language, art and advertising. Third, the types and structures of shadow incongruities will be described. Fourth, the role of valence in shadow incongruity advertising will be described and fifth, the hypotheses will be theorized and explained.

2. Theoretical Framework

2.1 A typology of visual rhetoric in advertising

Visual rhetoric is the term used to describe the study of visual imagery within the discipline of rhetoric (Foss, 2005). Visual rhetoric includes the use of images to persuade people. The defining property of all rhetorical figuration is *deviation from expectation*, that is, from an audience’s ‘sense of what properly goes with what’ (Maes & Schilperoord, 2008). Different forms of images, which deviate from expectation, might have a different effect on persuasive power. Philips and McQuarrie (2004) created a typology wherein nine types of visual rhetorical figures are distinguished according to their degree of complexity and ambiguity. In figure 3 the typology by Philips and McQuarrie is shown. For every type, except for juxtaposition (similarity) and fusion (connection), an example which Philips and McQuarrie used in their research is shown in figure 3. All types in this typology are focused on Messaris’ (1997) third major role that pictures can play in advertisements: pictures can establish an implicit link between the thing that is being sold and some other image. In this typology the visual structures include possible ways of arranging distinct visual entities in a single image.








COMPLEXITY ↓	Visual Structure	RICHNESS →		
		Meaning Operation		
		Connection (‘A is associated with B’)	Comparison	
			Similarity (‘A is like B’)	Opposition (‘A is not like B’)
Juxtaposition (Two side-by-side images)		Dexter shoes		
Fusion (Two combined images)	Discover card			
Replacement (Image present points to an absent image)				

Figure 3: A typology of visual rhetoric according to their complexity and ambiguity

Two dimensions are crossed in the typology above: *visual structure* and *meaning operation*. Visual structure refers to the way the two entities (some image and the product or service that is being sold) that comprise the visual rhetorical figure are physically pictured in the ad. Meaning operation refers to the target or the focus of the cognitive processing required to comprehend the picture (Philips & McQuarrie, 2004). The way in which two elements are physically pictured in a certain ad can differ in their level of complexity. Complexity is an important property in their typology, because it indicates the demands each visual structure places on consumer processing of advertisements. According to Philips and McQuarrie (2004) complexity increases as one moves along the visual structure dimension from juxtaposition to fusion to replacement. Richness refers to the degree and range of processing opportunities afforded by the various meaning operations (Philips & McQuarrie, 2004). An operation is richer if the ad allows for a larger number of alternative responses. Philips and McQuarrie (2004) claim that all forms of distinct visual entities in a single image can be categorized, or subcategorized, in one of the nine visual structures in their typology. Despite this claim, there seems to be several visual structures that do not fit one of the nine visual structures by Philips and McQuarrie. Schilperoord (2017) states that insert-based incongruities (figure 4a), erase-based incongruities (figure 4b) and distort-based incongruities (figure 4c) are scarcely examined and cannot be categorized in the typology of Philips and McQuarrie. The terms visual structure and visual incongruity will be frequently used in this thesis and the terms are connected in the following way: in a visual structure there is something that deviates from reality: an incongruity between a viewers' prior knowledge and a certain representation.

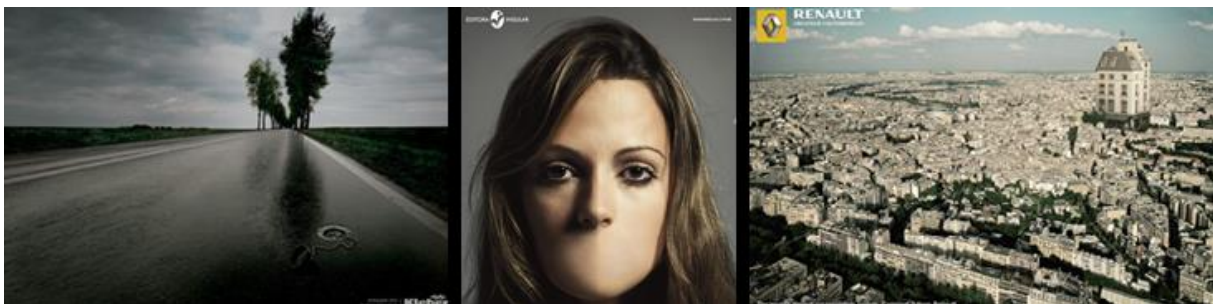


Figure 4a: Insert Incongruity

Figure 4b: Erase Incongruity

Figure 4c: Distort Incongruity

Another visual structure that has been scarcely examined and that cannot be classified in the typology as proposed by Philips and McQuarrie (2004) is the shadow incongruity. In this visual structure, there are shadows present in an image, but these

shadows are in some way inconsistent with a viewers' prior knowledge. Shadow incongruities are the central focus in this thesis and will be discussed in the following paragraphs. First, a brief history of cast shadows will be described (paragraph 2.2). Second, the structure and resolution of the different shadow incongruity types will be provided (paragraph 2.3).

2.2 A brief history of cast shadows

Shadows have existed around us since the beginning of time. In the Bible, during the story of creation, God created the two elements that are necessary to cast a shadow: a light source and an object (Genesis, King James Version). Shadows exist when light is blocked by the presence of an object. Shadows provide potentially rich information about the visual scene (Casati 2003). Viewers can use shadow information to define scenes and to uncover the presence, location, shape and size of objects in scenes (Mamassian, 2004). Dee & Santos (2009) distinguish two types of shadows: cast shadows and self-shading. Cast shadows exist when a caster comes between a light source and a surface or screen (Dee & Santos, 2009). Cast shadows differ from self-shading, because self-shading occurs when an object casts a shadow upon itself. In this thesis focus will be placed on cast shadows.

The focus in the literature on shadows is placed mostly on language, discourse and (Western) art. In language, researchers have studied the metaphorical meanings associated with the word shadow. The meanings associated with the word shadow are primarily negative. The concept of the shadow is seen indirectly in the often distasteful traits and actions of others (Zweig & Wolf, 1997). Jung (1970) states that the concept of the shadow consists of unintegrated attributes that seem negative. For example, one can 'take the shadow for the substance', which means that one can accept something false, deceitful, shallow, or insubstantial instead of something true, meaningful, or valuable. One can 'be in the shadow of somebody', which essentially means that someone is receiving little attention because someone else is better known or more skilful. Another saying concerning shadows is that 'old sins cast long shadows', which means that old indiscretions can continue to have consequences well into the future. All these examples have the concept of the shadow as a metaphor and in all cases the metaphor is of a negative nature.

Shadows are also very frequent present in (Western) art and culture. During the Renaissance painters tried to master the depiction of shadows in order to solve space

organisation problems (Casati, 2008). Once they mastered the depiction of shadows, they were able to enhance realism by providing objects with presence, solidity and volume (Schilperoord & van Weelden, 2017). After mastering the depiction of shadows artists went one step further and started using shadows as a representative form in its own right (Stoichita, 1997; Gombrich, 2014). Stoichita (1997) describes the usage of the shadow in art in the Renaissance as 'the product of an empirical manipulation'. In this time period artists began to exploit the expressive possibilities shadows had to offer on a symbolic and psychological level (p. 130).

Stoichita (1997) states that shadows can serve two purposes in all kinds of art. First, shadows can be used to create artwork that is as realistic as possible. Shadows can create depth, which can give a 2D-image an unambiguous 3D-structure, which in turn creates a more realistic painting (Cook, 2012). Second, shadows can be used to portray hidden connotations, which can have positive as well as negative meanings. Or, in other words, shadows can be used as a rhetorical tool to construct a relation between a caster and its shadow, in which the shadow reveals something, positive or negative, about the caster. These shadows are manipulated in such a way that they do not enhance realism, but instead provoke reality on purpose to give the shadows a symbolic and/or psychological meaning.

To underline the differences between the two purposes of shadow use as mentioned by Stoichita (1997), consider the following two figures (5a and 5b). In Figure 5a, the painter Wright used shadows to create a more realistic scene. Besides the shadow of the man, redrawn by the woman in the picture, the woman has a shadow as well. Both shadows create depth and are realistic representations of the persons. In no way are the shadows used to manipulate reality; the shadows are used to enhance reality. In figure 5b, one of the Frescoes in the Orvieto Cathedral by Luca Signorelli, the shadow has a symbolic value. This fresco is about the visit of Dante Dante to Hell at the moment in which he is accompanied by Virgil, his guide, with whom he has a special connection. At a certain moment the shadow of Dante is cast onto the ground, but the shadow of Virgil is not, although they should either both have or not have a shadow. In other words, the shadow use in Signorelli's fresco is not a tool to enhance realism, but the shadow is used for symbolic purposes. In the *Divine Comedy* by Dante only living persons had shadows in Hell, indicating that Virgil is dead. The shadow is a symbol for life, while the absence of a shadow is a symbol for death. In short, in the first painting shadows are used to enhance realism, while in the second painting the

(impossible) shadow expressed a symbolic value. The focus in this paper will be placed on the second purpose of shadow use as mentioned by Stoichita (1997)



Figure 5a: Wright's the Corinthian Maid



Figure 5b: Signorelli's Fresco in the Orvieto Cathedral

Stoichita (1997) uses several examples in his book to show the use of incongruent shadows to express symbolic values. Schilperoord and van Weelden (2017) have tried to categorize the shadow examples of Stoichita in terms of the way they deviate from reality. For example, when there is a light source, an object and a surface but still no shadow, a different sort of deviation from reality is created than when an object casts a shadow that doesn't match with the shape or size of that same object. Stoichita, however, was not interested in exactly how the reality was manipulated, but he only wanted to describe the expressive possibilities shadows had to offer on a symbolic and psychological level. Stoichita's work is very important, because it highlights how, when and for what reason individuals started to use shadows as a product of empirical manipulation rather than using shadows as a tool to enhance realism. Stoichita (1997) also discusses the use of shadows in advertisements, but he did not classify shadow incongruities in advertisements or art in terms of how the shadows exactly deviated from reality. Schilperoord and van Weelden (2017) did create a model to distinguish between types of shadow incongruities in advertisements.

In the following section the shadow incongruity types defined by Schilperoord and van Weelden (2017) will be discussed in detail. First, how shadow incongruities can exist will be described (paragraph 2.3.1); second, the way in which a shadow incongruity should be resolved by a viewer of an incongruent shadow advertisement in order to understand the intended message by the creator will be explained (paragraph 2.3.2); third, the different shadow incongruity types, their structure and their resolution will be described (paragraph

2.3.3); and fourth, an overview of the shadow incongruity types will be provided (paragraph 2.3.4).

2.3 Shadow incongruity

2.3.1 Structure of the shadow incongruity

Schilperoord and van Weelden (2017) have categorized three types of shadows incongruities based on a model with so-called anchoring rules drafted by Dee and Santos (2009). Dee and Santos (2009) drafted these anchoring rules in order to create the ability to solve what they call *the shadow correspondence problem*: how can objects be unambiguously matched with their respective shadows. These anchoring rules point out how shadows are unambiguously anchored to their caster (table 1). A shadow is unambiguously anchored to its caster, if none of the anchoring rules in the table below are violated.

Table 1: Anchoring rules (Dee and Santos, 2009); how shadows can be unambiguously anchored to their caster.

	Anchoring rule
1	Each cast shadow has a caster, a light source and a surface
2	No entity can cast another entity's shadow
3	Caster and shadow represent a single perceptual instance
4	In given circumstances, object can only cast one shadow
5	Shadows are two-dimensional, non-material objects
6	When there is a cast shadow, there must be a caster
7	Unaccompanied shadows can only occur when their caster flies or floats

However, if one or more of the anchoring rules is violated, a shadow incongruity occurs (Schilperoord and van Weelden, 2017). This means that a shadow is not unambiguously anchored to the caster and that the incongruent shadow in an image is inconsistent with a viewer's sense of reality.

With the possibility of different anchoring rules to be violated, different types of shadow incongruities can be identified. For example, in figure 6 the anchoring rule that is being violated is 'no entity can cast another entity's shadow', but in figure 8 the anchoring rule that is being violated is 'when there is a cast shadow, there must be a caster'.

Schilperoord and van Weelden (2017) have, as mentioned earlier, started to categorize these shadow incongruities in terms of the different anchoring rules that can be violated. In

their article, Schilperoord and van Weelden (2017) discuss the structure of the shadow incongruities and how these shadow incongruities should be resolved by the viewer.

In the following paragraph (2.3.2) two steps to successfully resolve an incongruity in general will be described. These steps are necessary to resolve any sort of incongruity. Schilperoord and van Weelden have distinguished between three types in total and both the structure and the corresponding resolution, which differs per incongruity type, of the three shadow incongruities types will be discussed in paragraph 2.3.3.

2.3.2 Resolving incongruities

Two steps have to be taken in order to successfully resolve any incongruity in advertising. The first step is centred around the principle of relevance (Sperber & Wilson, 1986). Relevance, in advertising, can be defined as the meaningfulness of the ad and its product with respect to the viewer's need (Lastovicka, 1983). Creators of advertisements have to ensure that the message they convey has meaning and is worth the cognitive effort asked of the viewer to decode the intended meaning of the message. A viewer has to acknowledge that the incongruity in an advertisement is deliberately designed whereby that incongruity is created in such a way to serve some communicative intention. Not grasping the deliberative incongruity is one of the main detours which prevent the appreciation of the advertisement (Forabosco, 2008). Prior knowledge about advertising helps viewers to recognize that they are dealing with a certain form of incongruent advertising and how the message conveyed should be interpreted. Once a viewer recognizes the kind of messages they are dealing with, they will feel invited to appreciate shadow incongruities for what they are and put effort into finding out what the intended meaning of the communicator is (Schilperoord & van Weelden, 2017; Forceville, 1996).

Next, a recipient must be able to come up with an accurate resolution to the incongruity. This means that the resolution of the viewer has to match the communicator's intentions. This step is centred around the term *incongruity resolution* (Forabosco, 2008), which means that a viewer must be able to come up with an accurate resolution to an incongruity that matches with the communicator's intended message.

2.3.3 Three shadow incongruity types

As mentioned before, Schilperoord and van Weelden have categorized three shadow incongruity types in terms of the anchoring rules that are being violated.

2.3.3.1 Type I shadow incongruities: the revealing shadow

In Type I shadow incongruities the shadow is distorted in such a way that it comes to represent an entirely distinct object (Schilperoord and van Weelden, 2017). The anchoring rule that is violated in type I shadow incongruities is that no entity can cast another entity's shadow. Consider figure 6. In this advertisement by Lego an object that is not a T-rex, casts the shadow of a T-rex. This implies that the caster (the Lego block formation) has another, totally different, shadow (the T-rex). The locus of incongruity in type I shadow incongruities concerns the caster and its shadow. This means that the incongruity is centred around the caster and its shadow. Though there is nothing wrong with the size and direction of the shadow, the caster and shadow do not represent the same object (in figure 2: T-rex versus non-T-rex lego block formation).

A viewer of a type I shadow incongruity has to resolve the incongruity by transcending the physical link between the caster and its shadow to the level of conceptualization (Schilperoord and van Weelden, 2017). Though the two entities (Lego formation and T-rex) are not the same physically, they are suggested to be identical on a conceptual level in type I shadow incongruities. Type I shadow incongruities can be described as shadows revealing the 'true nature' of their caster or the 'hidden contents' of the caster's mind (Schilperoord & van Weelden, 2017). Consider figure 2 again, in the Lego advertisements the communicated message is that the Lego block formation is not just a formation, but a real T-rex. The caster represents what the topic of the message appears to be, while its shadow reveals its 'true nature'; what the caster actually is. (Schilperoord & van Weelden, 2017).

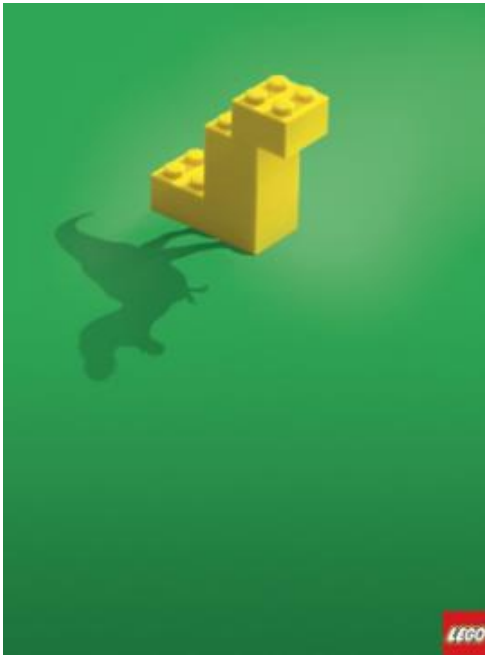


Figure 6: Type I Lego ad

2.3.3.2 Type II shadow incongruities: the shadow as the caster's other self

In Type II shadow incongruities the shadow and its caster represent the same object, but the shadow is manipulated in such a way that it captures the casting object in different poses, attitudes or qualities. The anchoring rule that is violated in type II shadow incongruities is that 'caster and shadow represent a single perceptual instance'. Consider figure 7, in this advertisement by Gatorade an object (a waking, tired person), casts a shadow of an active, sporting person. In this ad the person's shadow seems to represent the caster's other self. Just like in type I shadow incongruities, the locus of incongruity in type II shadow incongruities concerns the caster and its shadow. This means that the incongruity is again centred around the caster and its shadow. Though there is nothing wrong with the size and direction of the shadow, the caster and its shadow seem to represent two different poses, attitudes or qualities of the object (in figure 7: a tired person versus an active person).

Just like in shadow type I incongruities, a viewer of a type II shadow incongruity has to resolve the incongruity by transcending the physical link between the caster and its shadow to the level of conceptualization (Schilperoord and van Weelden, 2017). A viewer of type II shadow incongruities can resolve the incongruity by construing a relation of transition between two states of an object which are represented by caster and shadow (Schilperoord and van Weelden, 2017). A viewer of such an ad has to take into account that the topic (the

advertised product or service) is the cause of the transition. In figure 3, the Gatorade ad, a before-after relation has to be construed between the caster and its shadow. Before the transition the caster (a person) is waking and very tired, but after the transition the person (its shadow) is active and sporting. The causal force that sets the transition in motion is the advertised product in the advertisement: Gatorade. This implies that Gatorade is a drink that can make someone who is tired and lazy active and fit.



Figure 7: Type II Gatorade ad



Figure 8: Type III Refugee Foundation ad

2.3.3.3 Type III shadow incongruities: the indexical shadow

Type III shadow incongruities contain depictions of shadows that function as an index for an incongruity. A general anchoring rule that is being violated for type III shadow incongruities is that if the shadow has a property as depicted, than the constituents ‘object’ (caster) and/or ‘source’ (light source) should have that property as well (Schilperoord and van Weelden, 2017). This general anchoring rule can be subdivided in the remainder of the anchoring rules by Dee and Santos (2009): (1) each cast shadow has a caster, a light source and a surface; (4) in given circumstances, objects can only cast one shadow; (5) shadows are two-dimensional, non-material objects; (6) when there is a cast shadow, there must be a caster and; (7) unaccompanied shadows can only occur when their caster flies or floats or when the caster is located outside the visual field. For example, In figure 8, an ad by a refugee foundation, the anchoring rule that is being violated is ‘when there is a cast shadow, there must be a caster’. In a normal situation all shadows would have a caster and that would match a viewer’s prior knowledge about shadow depiction. However, in this ad only one out of the six shadows depicted in the ad has a caster, which creates a deviation from the viewer’s expectation. The locus of incongruity in type III shadow incongruities concerns,

in contrast to type I and II shadow incongruities, either the caster or the light source.

The general format of the resolution is that the incongruent entity represents some quality the product/topic is claimed to possess or to bring about (Schilperoord and van Weelden, 2017). Figure 8 exemplifies a type III shadow incongruity: the missing casters signify the importance of donating to the refugee foundation in order to arrange proper aid to refugees to keep them safe and alive. Without donating, five out of every six refugees will die while looking for aid. In type III shadow incongruities it is the incongruent shadow, the caster or light source that needs to be resolved.

2.3.4 Summary of shadow incongruity types

In table 2 the three shadow incongruity types, their meaning and the violated anchoring rules associated with that type are summarized.

Table 2: Three types of shadow incongruities, their meaning and the anchoring rules

Shadow Incongruity	Meaning	Associated Anchoring rules
Type I	Shadows revealing the ‘true nature’ of their caster or the ‘hidden contents’ of the caster’s mind.	- No entity can cast another entity’s shadow
Type II	shadows marking some transition their caster is involved in.	- Caster and shadow represent a single perceptual instance
Type III	Shadows suggesting a certain quality attached to one of a shadow’s main ingredients: casting object, light source or surface.	- Each cast shadow has a caster, a light source and a surface - In given circumstances, object can only cast one shadow - Shadows are two-dimensional, non-material objects - When there is a cast shadow, there must be a caster - Unaccompanied shadows can only occur when their caster flies or floats

2.3.5 Focus on type I shadow incongruities.

In this thesis the focus will be placed on the first shadow incongruity type: the revealing shadow. The visual structure shadow incongruity will be compared with another visual structure: juxtaposition. This structure will be explained later in paragraph 2.5. The effect of

the two visual structures on aesthetic appreciation, relational strength and message acceptance will be examined.

One property of type I shadow incongruities, which is absent in type II and III shadow incongruities, is that all ads of this type can be valued as positive or negative (hereafter referred to as message framing). In figure 9a the scope of the advertisement is clearly positive, while the scope in figure 9b is clearly negative. The effect of message framing in incongruent shadow ads on a viewer's ad processing and response has not been examined yet and will be examined in this thesis. The use of message framing in advertisements will be further discussed in paragraph 2.4

Another reason to focus solely on type I shadow incongruities is that there is a huge potential for type I shadow incongruities to create relational strength between two entities in one image (Schilperoord and van Weelden, 2017). In their article they compare shadow incongruity with the visual structure juxtaposition and suggest examining the differences between shadow incongruities and juxtaposition in terms of relational strength and their rhetorical impact. In a thesis written earlier this year Chrysospathi (2017) found that type I shadow incongruities indeed create a stronger relationship between two entities than juxtaposition, but no direct effect of visual structure on aesthetic appreciation was found. Chrysospathi did not examine the effect of different visual structures on message acceptance, and she did not examine the role of valence as well. In this study the thesis of Chrysospathi is replicated in terms of the examination of the effect of the visual structures juxtaposition and shadow incongruity on relational strength and aesthetic appreciation. What has not been examined yet and is new in this thesis, is the examination of the role of valence in incongruent shadow advertisements and the effect of visual structure on message acceptance.

In the paragraph 2.4 the role of valence in advertising will be further described. In paragraph 2.5 the visual structure juxtaposition will be explained and the hypotheses will be given

2.4 Message framing in advertising

Message framing has been widely used to explain the effects of two fundamental advertising message strategies—positive frames versus negative frames (Rothman et al., 2006). Positive framing focuses on positive physical, monetary or psychological outcomes of a product or service, while negative framing informs the audience on how to avoid or minimize pain or

loss by using the advertised product or service (Xue, 2015).

The term message framing is inseparably connected to type I shadow incongruities, since the shadow depictions in these incongruities reveal the true nature of the caster. The true nature of something or someone is always loaded with a value(positive or negative). Consider the figures below (9a and 9b). In figure 9a the true nature of the caster is positively framed. The caster is simply a Lego-construction composed out of two bricks, but the shadow is a plane. The relation between caster and its shadow is positive: a simple Lego construction is a real plane.

Figure 9a: positive message frame



Figure 9b: negative message frame



In contrast, in figure 9b, the true nature of the caster is negatively framed. The topic is unofficial service, which is represented by the caster: a wrench, and the shadow is a t-rex. Unofficial service is as dangerous as a t-rex; the true nature of unofficial service is a dangerous t-rex.

Message framing, as stated earlier, is inseparably connected to type I shadow incongruities, but it also plays an important role in verbal metaphors about shadows. As mentioned earlier (p. 10), the meanings associated with the word shadow are primarily negative. The concept of the shadow is often related to the distasteful traits and actions of others (Zweig & Wolf, 1997). People are familiar with metaphors wherein the shadow is used as a negative concept. The mere exposure effect is a psychological phenomenon by which people tend to develop a preference for things or people that are more familiar to

them than others (Zajonec, 2003). In this case, one can argue that people tend to develop a preference for metaphors in which a shadow is conceptualized as negative in comparison with metaphors in which a shadow is conceptualized as positive, because they have witnessed a lot of negative shadow metaphors and only a few or none have witnessed positive shadow metaphors.

Apart from the mere exposure effect, negatively framed advertisements might be more persuasive than positively framed advertisements, since consumers tend to perceive negative information as more important, salient and credible, resulting in more persuasive power of a message (Banks et al., 1995; Davis, 1995). In *Overtuigende Teksten* (Hoeken, Hornix & Hustinx, 2012) the authors state that there are no significant differences between gain-framed messages (positive) or loss-framed messages (negative) in terms of their persuasive power. This effect was found in multiple studies (O'Keefe & Jensen, 2006). In this thesis the role of message framing in incongruent shadow advertisements will be examined. However, when the negative consequences of actions are mentioned and emphasized in the ad, people tend to perceive the negative information as highly important and relevant and therefore more persuasive (Mongeau, 1998; Witte and Allen, 2000). In this thesis negative ads will all include the mentioning of negative consequences of actions (or non-actions)

2.5 Hypotheses

In this paragraph the hypotheses will be given. First, the visual structure juxtaposition will be explained and hypotheses concerning the relational strength between two entities in a single image for both juxtaposition and shadow incongruity will be given. The effect of message framing on relational strength will also be hypothesized. Second, the hypotheses for aesthetic appreciation and message acceptance for both incongruities (juxtaposition versus shadow incongruity) and message framing (positive versus negative) will be given.

2.5.1 Juxtaposition and relation strength

Schilperoord and van Weelden (2017) propose that shadows create a stronger relation between two elements than juxtaposition. Juxtaposition refers to presenting two entities (some image and the product or service that is being sold) separately side by side. This visual structure is widely used and invites a viewer to make a metaphorical connection between two entities in a single image. In figure 10a a homemade ad with the visual structure juxtaposition is shown. In this figure two images are presented separately side by side. The left image is a Lego construction (the product being sold) and the right image is a tank (some image).



Figure 10a: juxtaposition; A (homemade) Lego advertisement

Figure 10b: shadow incongruity

In processing a metaphor in a juxtaposition advertisement, one of the objects has to be taken as the metaphor's target object and the other one as its source object (Lakoff & Johnson, 1980). Following Lakoff and Johnson's (1980) metaphor processing model the incongruity in Figure 6 invites a viewer to conceptualize the Lego blocks as similar to a T-rex: 'a Lego block construction is like a tank'. (Bowdle & Gentner, 2005). In contrast, the visual structure shadow incongruity invites a viewer to conceptualize the Lego blocks as identical to a T-rex (figure 10b): 'a Lego block construction is a tank'. The visual structure juxtaposition is suggested to fail to express the relation of identity (Schilperoord and van Weelden, 2017; Chrysospathi, 2017) and the relation of identity is considered to be a stronger form of relational strength than similarity. Where similarity is about the relation 'A is (not) like B', identity is about the relation 'A is (not) B'.

In advertisements with the visual structure juxtaposition the relation between the two objects has to be identified by the eyes and mind of the viewer. The two entities in such advertisements are not inseparably connected, but the connection has to be made by the

viewer. In order to resolve the intended message by the communicator, the viewer has to (and has the will to) connect the two entities in order to correctly resolve the incongruity. In shadow incongruity advertisements the relation between two entities (caster and its shadow) is established within the ad itself and is therefore inevitable. The two entities are already connected, and not presented to the viewer separable side by side as with juxtaposition, causing that the viewer does not have to make the connection between the two objects. Therefore it is expected that the relational strength between two visual entities in a single image will be stronger when the visual structure shadow incongruity is used in comparison with the visual structure juxtaposition, because the relation between two entities in shadow incongruity ads is inevitable. This is not the case with the visual structure juxtaposition, whereby the two entities are detached and not inevitably connected. This leads to the following hypothesis:

H1: The visual structure shadow incongruities lead to a higher relational strength between two elements (caster and its shadow) than the visual structure juxtaposition.

The influence of negative message framing is expected to positively influence relational strength more than positive message framing. Consumers tend to perceive negative information as more important, salient and credible (Banks et al., 1995; Davis, 1995). A higher relational strength between two entities in a single advertisement is expected when a consumer views an advertisement of a negative nature, because viewers will perceive the negative information provided in the ad as more important and credible. It is expected that viewers will connect the two entities in a single negatively framed advertisement more quickly and more strongly than in a positively framed advertisement. This leads to the following hypothesis:

H2: A negative framed message leads to a higher relational strength between two elements (caster and its shadow/two separated entities in one image) than a positive framed message.

2.5.2 Aesthetic Appreciation

Aesthetic appreciation is commonly referred to as the appreciation of beauty and excellence. Reber et al. (2004) define aesthetic appreciation as a subjective pleasurable experience. People decide if something is aesthetically pleasurable, before reasoning about the image. Crilly et al. (2004) argue that aesthetic appreciation and attractiveness are

interchangeable terms and state that aesthetic appreciation has a huge impact on consumer response. Blijlevens et al. (2017) distinguished five important determinants of aesthetic pleasure. These five determinants, attractiveness, novelty, typicality, unity and design, together form a complete overview of aesthetic pleasure. In this study the determinants attractiveness, novelty and design will be measured.

Philips and McQuarrie (2004) argue that the difference of complexity is related to differences in consumer responses. Complexity is, within limits, pleasurably arousing, and therefore it will also be associated with greater aesthetic appreciation (Berlyne, 1971; McQuarrie & Mick, 1999; Teng & Sun, 2002). McQuarrie and Mick (1992) state that figures that are excessively deviant may fail to be comprehended. Or, in other words, when an ad is too difficult to resolve, it is not pleasurably arousing anymore and therefore it will not result in greater aesthetic appreciation. However, the ads that will be used in this study are not expected to be too difficult to resolve, since they are quite easy to resolve and understand. In this study two visual structures are compared: juxtaposition and shadow incongruities. Shadow incongruities are expected to be more complex, since the two objects in these visual structures are more difficult to detach from each other. Therefore, it is hypothesized that advertisements featuring shadow incongruities are more aesthetically appreciated than those with juxtaposition.

H3: The visual structure shadow incongruities is more aesthetically appreciated in terms of (a) likeability, (b) novelty and (c) design than the visual structure juxtaposition

The influence of negative message framing is expected to positively influence aesthetic appreciation as well, since consumers tend to perceive negative information as more important, salient and credible (Banks et al., 1995; Davis, 1995). A more credible and salient message is more aesthetically appreciated (Jin & Phua, 2014). Therefore it is hypothesized that negatively framed advertisements are more aesthetically appreciated than positively framed advertisements.

H4: Negatively framed advertisements are more aesthetically appreciated in terms of (a) likeability, (b) novelty and (c) design than positively framed advertisements.

2.6.3 Message Acceptance

Message acceptance is one of the most important prerequisites in order to change attitudes,

behaviours or intentions during the central as well as the systematic processing route (Ratneshwar and Chaiken, 1991). In this thesis it will be examined if different visual structures (juxtaposition versus shadow incongruities) have a different effect on message acceptance. The relation between the two entities in one image in shadow incongruity advertising is inevitable, while in juxtaposition this relation has to be established by the viewer (see paragraph 2.5.1). Though the incongruent shadow advertisements is more complex, because the two entities in the image are intertwined, the relation between the two entities is more easily constructed, because the relation between the two entities is already established by the communicator of the advertisement. This is not the case in the visual structure juxtaposition. Juxtaposition advertisements are less complex, because the two entities in the image are separated. However, the relation between the two entities is not inevitable, which make it more difficult for the viewer to establish a relationship between the two entities. It is hypothesized that communicated messages wherein the relation between two entities is inevitable are more easily accepted by a viewer than when this relation is not inevitable. Furthermore, it is expected that messages which are more pleasurable arousing are accepted easier by a viewer. In paragraph 2.5.2 it was already theorized that shadow incongruity advertisements are more pleasurable arousing. Therefore, the following is hypothesized:

H5: The visual structure shadow incongruity leads to a higher message acceptance than the visual structure juxtaposition.

Will, Decina and Maple (2015) state that negative message framing leads to a better acceptance of messages than positive message framing, because people are more inclined to carefully process negative framed messages in order to avoid dangerous situations. In this thesis the negatively framed messages all call for action to avoid dangerous or unhealthy situations, therefore the following is hypothesized:

H6: A negatively framed message leads to a higher message acceptance than a positive framed message.

3. Method

3.1 Design

A 2 (positive versus negative frame) x 2 (shadow versus juxtaposition) Latin square within-subjects design was used for this study (table 3). A total of sixteen advertisements were used for this study. Four lists were created such that each participant was exposed to all conditions, but never saw the same advertisement or the same condition twice.

Table 3: Latin-square within-subjects design for this study; 4 advertisements x 4 conditions.

	Shadow + positive frame	Shadow + negative frame	Juxtaposition + positive frame	Shadow + negative frame
Advertisement 1	1	2	3	4
Advertisement 2	4	1	2	3
Advertisement 3	3	4	1	2
Advertisement 4	2	3	4	1

3.2 Materials

3.2.1 Manipulation of the independent variables

The advertisements that were used for this study were either manipulated in terms of their message frame (positive versus negative) or in terms of their incongruence (shadow versus juxtaposition). For each advertisement (four in total) four versions were created: shadow and a positive frame, shadow and a negative frame, juxtaposition and a positive frame, and juxtaposition and a negative frame). The four versions for each advertisement had the same shadow, but two different casters: one caster for positive framed messages and one caster for negative framed messages (figure 1). The most important thing to take into account was that the shadow in the advertisements was the same for all of the four versions. The four shadows that were used in this study were: a crocodile, a t-rex, a soldier and a tank. All advertisements can be found in appendix A.

Eight advertisements were manipulated to represent a negative message frame and eight were also manipulated to represent a positive message frame. Two out of the eight negative framed advertisements already existed and three out of the eight positive framed advertisements already existed. In a pre-test it was measured if the valence of the advertisements was correctly assessed by participants and if the advertisements were considered realistic. The participants saw ten advertisements in total: five positive message

framed advertisements and five negative framed advertisements. In an introduction they were told that they had to write down their interpretation of the advertisement. During the actual pre-test the participants had 200 words per advertisements to describe how they interpreted the advertisement. They had to indicate the meaning of the advertisement and whether they considered the advertisements to be positive or negative. In table 4 the results of the pre-test are shown. All participants (N = 11) considered the advertisements to be realistic. All advertisements belonging to the positive message frame were considered positive by the participants and were included for further analysis. All advertisements, except for one, belonging to the negative message frame were considered negative by the participants as well. The advertisement that was rejected had a sword as object, because half of the participants of the pre-test did not consider the negative version of this ad to be really negative. Therefore, advertisements with the sword as object did not match the qualifications of the negative message frame and were excluded from further analysis.

Table 4: Pre-test results for message framing (0 = correct form of message framing not indicated, 1 = correct form of message framing indicated).

Participant	1	2	3	4	5	6	7	8	9	10	11	Total correct interpretations of the message frames manipulations
Positive message framing												
Crocodile	1	0	1	1	1	1	1	1	1	1	1	10
Tank	1	1	1	1	1	1	1	1	1	1	1	11
Sword	1	1	1	1	1	1	1	1	1	1	1	11
Soldier	1	1	1	1	1	1	1	1	1	1	1	11
T-rex	1	0	1	1	1	1	1	1	1	1	1	10
Negative message framing												
Crocodile	1	1	1	1	1	1	1	1	1	1	1	11
Tank	1	1	1	1	1	1	1	1	1	1	1	11
Sword	0	0	0	1	1	0	0	1	0	1	0	4
Soldier	1	1	1	1	1	1	1	1	1	1	1	11
T-rex	1	1	1	1	1	0	1	1	1	1	1	10

For the incongruity manipulation, eight advertisements were manipulated to represent an advertisement with a shadow incongruity and eight advertisements were manipulated to represent an advertisement with a juxtaposition incongruity. In the incongruent shadow advertisements it was important that the shadows violated the third anchoring rule by Dee & Santos (2009): no entity can cast another entity's shadow, which matched with the type-I shadows as introduced by Schilperoord and van Weelden (2017). In the juxtaposition shadow advertisements it was important that the object had the same size

and was faced towards the same direction as the caster (Figure 11b & 11d). It was also considered important to choose an appropriate background for all of the eight juxtaposition advertisements. For example, the background of the juxtaposition and positive message frame t-rex Lego advertisement (figure 11b) had a neutral background consisting out of a green Lego plate. A green background was chosen, because a t-rex is a prehistoric animal which once lived in a natural (green) environment. With a neutral, non-distracting background the focus of the participant was fully dedicated to the two entities present in the advertisements.



Figure 11: Four different versions with the same shadow (a t-rex), but two different casters (Lego and Wrench, respectively).

3.2.2 Instruments

Three constructs were measured in this study: aesthetic appreciation, relational strength and message acceptance. Three determinants of aesthetic appreciation were retrieved from

Blijlevens et al. (2014) to measure aesthetic appreciation: likeability, novelty and the beauty of the design. Since Blijlevens et al. (2014) already demonstrated that five items concerning likeability (like to look, nice to see, pleasing to see, attractive and beautiful) were highly reliable ($\alpha = .98$), it was considered appropriate to measure likeability with only one item on a 7-point Likert scale ranging from “*Strongly Agree*” to “*Strongly Disagree*”; *this advertisement is nice to look at*. Blijlevens et al. (2014) also demonstrated that four items concerning novelty (innovative, original, novel and new example) were highly reliable ($\alpha = .93$) and that three items concerning the beauty of the design (beautiful, nice, pretty) were reliable ($\alpha = .83$). One item for both the determinants of aesthetic appreciation was added; (1) *This advertisement is original*. (2) *The design of this advertisement is nice*.

Relational strength between the two entities of the advertisements was measured with one item, retrieved from an existing scale (Holmes, 2008). He defined six statements concerning the relational strength and relevance between two objects. Participants had to indicate their level of agreement on these statements on a 7-point Likert scale ranging from “strongly agree” to “strongly disagree”. The six items that measured the relational strength between two objects were highly reliable ($\alpha = .91$). One item from Holmes (2008) was retrieved and used in this study; *the relationship between the two entities in this advertisement is strong*. Relational strength was also measured in the last part of the experiment, but not with a 7-point Likert scale. Participants had to describe the relationship between the two entities by choosing between two statements. One of the statements indicated an identity relation; *This Lego-construction is a T-rex*, while the other statement indicated a similarity relation; *This Lego-construction is like a T-rex*.

The last construct that was measured was message acceptance. Participants had to answer one question about whether they accepted the message that was conveyed in the advertisement or not. For the Lego advertisement in figure 1 this means that the statement was: “*A Lego-construction can be anything*”.

3.2.3 Manipulation Check

In the pre-test it was demonstrated that participants were aware of positive or negative message frames in the advertisements. As recommended by Morgan and Reichert (1999), we had participants write down their interpretation of the advertisements. Their interpretation was rated in terms of their indication about the positive or negative message

in the advertisement. Though this demonstrated that the manipulation was noticed by the participants, an additional question was added in the experiment to extra check if the manipulation was successful; *I think that in this advertisement something negative is communicated about the topic of the ad*. With four repeated measures ANOVA's it was shown that the manipulation was successful for three out of the four advertisements. The manipulation was successful for the advertisement with a crocodile as object ($F(1, 40) = 2.86, p = 0.03; \eta^2 = .12$), for the advertisements with a t-rex as object ($F(1, 40) = 75.84, p < .001; \eta^2 = .65$) and for the advertisement with a soldier as object ($F(1, 40) = 19.73, p < .001; \eta^2 = .33$), but not for the advertisements with a tank as object ($F(1, 40) = 0.16, p = .69; \eta^2 = .004$). Though the manipulation of the advertisements with the tank as object seemed to be successful in the pre-test, after the manipulation check the choice was made to exclude the results of the advertisements with the tank as object from further analysis. In the table below (table 5) the means and standard deviations are shown for how the participants rated both the positive and negative framed advertisements in terms of their valence.

Table 5: Means (and standard deviations) for the valence perceived by participants for the positive and negative frame advertisements.

	Positive framed advertisement	Negative framed advertisement
Crocodile advertisement	4.21 (0.19)	3.73 (0.13)
Tank advertisements	3.72 (0.17)	3.62 (0.16)
T-rex advertisements	5.61 (0.17)	3.57 (0.16)
Soldier advertisements	4.95 (0.14)	4.23 (0.15)

3.3 Participants

All participants were recruited via e-mail. An e-mail with the questionnaire attached was sent to the employees of the municipality of Alphen aan den Rijn, a city in the Netherlands.

The choice to contact the municipality was twofold. First, it was decided not to include students in this experiment. Students are frequently asked to participate in experiments (by a peer for example) and therefore they might more easily guess what a researcher is examining and answer the questions in an experiment in a manner to please the researcher. Students who participate in experiments often might also not take an experiment seriously. Second, everyone is exposed to advertisements and therefore a group with a variety of people was desired for this experiment. In a municipality people from dozens of professions, from different age groups and from different backgrounds work

together, which makes the employees of a municipality perfect to participate in this experiment.

All employees, except for members of the outdoor service of the municipality were contacted. The members of the outdoor service were excluded simply because they do not have a personal e-mail address belonging to the employing organisation. 893 employees received the e-mail on Tuesday 9th of May and were asked to participate in a study by a master student from Tilburg University. 203 employees responded to the e-mail and filled in the questionnaire. 41 of them were incomplete and were therefore deleted. After a check for *straightliners* another three responses were deleted. Finally, a total of 169 responses were considered appropriate for analysis.

The mean age of the participants was 46 years. 60.6% of them were female. All participants were of Dutch nationality (99.4%), except for one (Spanish). Nearly three quarters of all participants were highly educated (72.9%).

3.4 Procedure

On May 9 2017 all employees of the municipality of Alphen aan den Rijn received an e-mail with a link to this survey. They were first informed what the study was about and what they had to do in order to complete the survey. Second, participants were asked to fill in questions concerning demographics, including age and gender. After that the actual experiment started. Each participant saw four advertisements in total and each version one time. In table 6 the order in which the advertisements were displayed to the participants is shown.

Table 6: the order in which the advertisements were shown to the participants in the survey.

	Version
Advertisement 1	Shadow + positive frame
Advertisement 2	Shadow + negative frame
Advertisement 3	Juxtaposition + positive frame
Advertisement 4	Juxtaposition + negative frame

The participants had to answer six questions per advertisement (24 questions in total) on a 7 point Likert scale. Next, they were exposed to the four advertisements again, but this time they had to choose between two statements (X is Y or X is like Y). At the end of the experiment participants were thanked for their time and effort.

4. Results

4.1 Relational strength

The first two hypotheses concerned the effect of incongruence and message frame on the relational strength between two entities of the four different types of advertisements (shadow + positive frame – shadow + negative frame – juxtaposition + positive frame – juxtaposition + negative frame). Relational strength was measured in two ways. First, participants were asked to rate a statement about relational strength on a 7 point Likert scale. Second, participants were forced to choose between two statements about relational strength four times in total: one forced choice per advertisement.

In the following table (7) the means and standard deviations are shown for the main effects of incongruence and message framing on the relational strength between two entities.

Table 7: Means (and standard deviations) for the main effects of incongruence and message framing on the relational strength between two entities.

	Shadow	Juxtaposition	Positive	Negative
Relational strength	4.75 (0.11)	3.96 (0.14)	4.21 (0.12)	4.50 (0.11)

A repeated measures ANOVA revealed an effect of incongruence ($F(1, 40) = 25.51, p < 0.001; \eta^2 = .39$) and message frame ($F(1, 40) = 5.09, p = 0.03; \eta^2 = .11$) on the relational strength between the two entities. No interaction effect was found ($F(1, 40) = 0.04, p = 0.84$) (table 8). This means that hypothesis 1 is fully supported and hypothesis 2 is only partially supported (for likeability and design) in the first part of the study about relational strength.

Table 8: Means (and standard deviations) for the relational strength between two entities across the four conditions.

	Shadow + positive frame	Shadow + negative frame	Juxtaposition + positive frame	Juxtaposition + negative frame
Relational strength	4.59 (0.15)	4.90 (0.13)	3.83 (0.15)	4.10 (0.15)

4.1.1 Relational strength: forced choice between statements

The second part of the study also concerned relational strength between two entities. Participants had to choose between two statements about the advertisement. One statement was indicating a stronger relational strength (identity) than the other statement

(similarity). A chi-square test revealed that there was no significant association between incongruence and relational strength ($\chi^2(1) = 0.02, p = .87$) (table 9).

Table 9: Frequencies of statement answers per incongruity condition (n = 676)

	Shadow	Juxtaposition	Total
Is	115	109	224
Is like	223	229	452
Total	338	338	676

Another analysis on the effect of incongruence on relational strength was conducted, but per advertisement. The results of this analysis are shown in figure 12. Three chi-square tests revealed that there was an association between incongruence and relational strength for the t-rex advertisements ($\chi^2(1) = 13.71, p < .001$), but no association was found for the crocodile advertisements ($\chi^2(1) = 1.01, p = .31$) and the soldier advertisements ($\chi^2(1) = 1.645, p = .20$) (figure 12). These results will be further discussed in the next chapter (chapter 5).

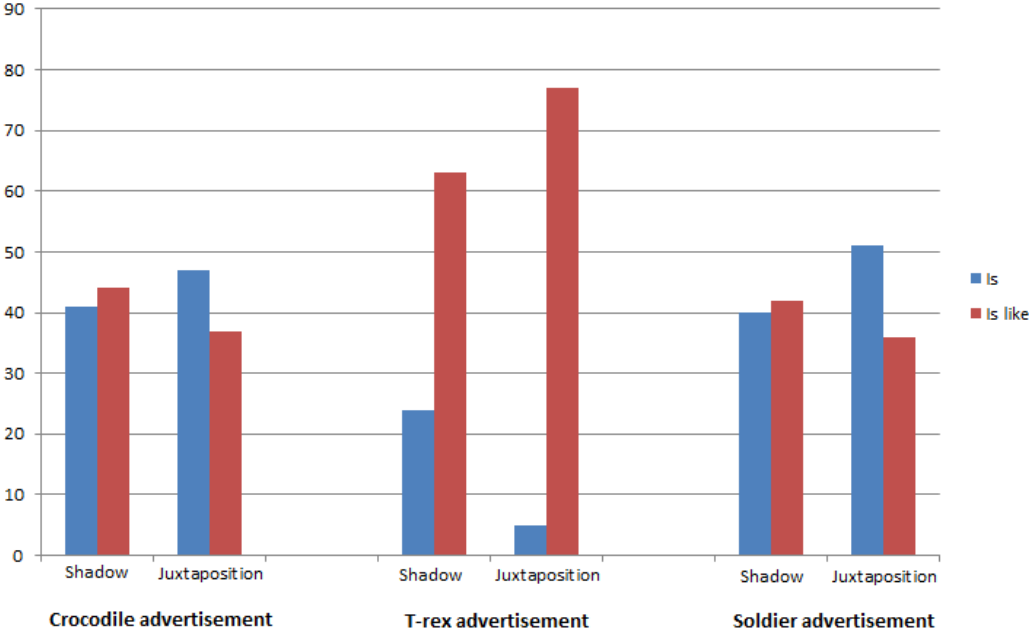


Figure 12: The effect of incongruity on relational strength per advertisement. (n = 254)

4.2 Aesthetic Appreciation

The next two hypotheses concerned the effect of incongruence and message frame on the aesthetic appreciation of four different types of advertisements. Aesthetic pleasure, in this study, was composed of three determinants: likeability, novelty and design. The means and standard deviations for main effects of incongruence and message framing on aesthetic pleasure are shown in table 10.

Table 10: Means (and standard deviations) for main effects of incongruence and message framing on aesthetic pleasure (likeability, novelty and design).

	Shadow	Juxtaposition	Positive	Negative
Likeability	4.22 (0.10)	3.47 (0.12)	3.75 (0.09)	3.94 (0.10)
Novelty	5.04 (0.09)	3.89 (0.11)	4.09 (0.11)	4.83 (0.09)
Design	4.56 (0.11)	3.54 (0.12)	3.74 (0.10)	4.35 (0.11)

A repeated measures ANOVA revealed an effect of incongruence on the likeability ($F(1, 40) = 20.042, p < .001; \eta^2 = .34$), novelty ($F(1, 40) = 59.49, p < 0.001; \eta^2 = .60$) and the design ($F(1, 40) = 43.57, p < .001; \eta^2 = .52$) of the advertisements. The repeated measures ANOVA also revealed that there was an effect of message frame on the novelty ($F(1, 40) = 32.13, p < .001; \eta^2 = .45$) and design ($F(1, 40) = 20.11, p < .001; \eta^2 = .34$) of the advertisements, but no effect of message frame on likeability was found ($F(1, 40) = 2.54, p = 0.10$). An incongruence*message frame interaction effect (table 11) was found on novelty ($F(1, 40) = 10.78, p = .21$), but not on likeability ($F(1, 40) = 1.96, p = .17$) and on design ($F(1, 40) = 3.53, p = .07$) (table 11). In figure 13 the incongruence*message frame interaction effect is visualized. This means that hypothesis three was fully supported and hypothesis four was only partially supported.

Table 11: Means (and standard deviations) for aesthetic pleasure (likeability, novelty and design) across the four conditions

	Shadow + positive frame	Shadow + negative frame	Juxtaposition + positive frame	Juxtaposition + negative frame
Likeability	4.22 (0.12)	4.21 (0.15)	3.28 (0.15)	3.67 (0.16)
Novelty	4.91 (0.14)	5.17 (0.10)	3.26 (0.16)	4.49 (0.15)
Design	4.38 (0.15)	4.73 (0.13)	3.11 (0.15)	3.98 (0.16)

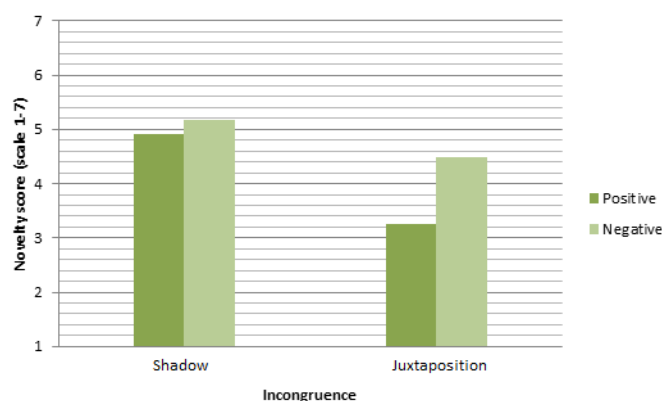


Figure 13: Interaction effect of incongruence and message frame on novelty

4.3 Message acceptance

The last two hypotheses concerned the effect of incongruity and message frame on the message acceptance of the advertisements by participants. The means and standard deviations for main effects of incongruence and message framing on message acceptance are shown in table 12.

Table 12: means (and standard deviations) for the main effects of incongruence and message frames on message acceptance.

	Shadow	Juxtaposition	Positive	Negative
Message acceptance	5.06 (0.09)	4.78 (0.10)	5.02 (0.10)	4.81 (0.11)

A repeated measures ANOVA revealed an effect of incongruity on message acceptance ($F(1, 40) = 6.48, p = 0.02; \eta^2 = .15$). No effect of message frame on message acceptance was found ($F(1, 40) = 2.75, p = 0.10$) and no interaction was found ($F(1, 40) = 0.31, p = 0.58$) The means and standard deviations can be found in table 13. This means that hypothesis five was fully supported and hypothesis six was not supported at all.

Table 13: Means (and standard deviations) for the message acceptance across the four conditions.

	Shadow + positive frame	Shadow + negative frame	Juxtaposition + positive frame	Juxtaposition + negative frame
Message acceptance	5.20 (0.14)	4.92 (0.14)	4.85 (0.12)	4.71 (0.13)

In table 14 an overview of the means (and standard deviations) per advertisement per construct for incongruity are shown.

Table 14: Overview of the means (and standard deviations) per advertisement per construct for incongruity. (juxta = juxtaposition; croc = crocodile).

	Relational Strength		Aesthetic Appreciation				Message Acceptance			
	Likeability		Novelty		Design					
	Shadow	Juxta	Shadow	Juxta	Shadow	Juxta	Shadow	Juxta	Shadow	Juxta
Croc	4.90(0.18)	4.00(0.19)	4.10(0.16)	3.23 (0.21)	4.88(0.15)	3.90(0.19)	4.40(0.15)	3.38 (0.20)	5.15(0.16)	4.88(0.16)
T-rex	4.70(0.16)	3.54(0.21)	3.23(0.20)	2.94 (0.18)	5.57(0.13)	4.17(0.18)	4.84(0.18)	3.49 (0.18)	5.27 (0.14)	4.81(0.18)
Soldier	4.65(0.21)	4.35(0.16)	3.95(0.16)	3.44 (0.16)	4.67(0.17)	3.59(0.19)	4.43(0.19)	3.76 (0.16)	4.76 (0.20)	4.65(0.16)

4.5 Overview of hypotheses

In table 15 all hypotheses are shown with a note on whether the hypothesis was supported or not.

Table 15: Overview hypotheses: fully supported, not supported or partially supported.

Number of Hypothesis	Supported / Not supported
1 – Aesthetic Appreciation higher for Shadow Incongruity > Juxtaposition	Fully supported for likeability, novelty and design
2 – Aesthetic Appreciation higher for Negative frame > Positive frame	Partially supported for novelty and design, not for likeability.
3 – Relational Strength higher for Shadow Incongruity > Juxtaposition	Fully supported in first study Partially supported in second study (forced choice between statements), only for T-rex advertisement
4 – Relational Strength higher for Negative frame > Positive frame	Fully supported in first study
5 – Message Acceptance higher for Shadow Incongruity > Juxtaposition	Fully supported
6 – Message Acceptance higher for Negative frame > Positive frame	Not supported

5. Conclusion and Discussion

In this chapter the results and implications of this thesis will be discussed and limitations of this study will be mentioned. Throughout the whole discussion suggestions for future research will be given. The last paragraph is about future research about shadow incongruities in general.

5.1 Discussion of the results

5.1.1 Relational Strength

Relational strength between two entities in a single image was measured with two different studies. First, participants had to indicate their level of agreement on a statement concerning relational strength on a 7-point Likert scale. Second, participants were also forced to choose between two statements which both described the relational strength of two entities in a single image. One of the statements (X is Y) described a stronger relational strength than the other statement (X is like Y)

The first hypothesis, *The visual structure shadow incongruities lead to a higher relational strength between two elements (caster and its shadow) than the visual structure juxtaposition*, was fully confirmed in the first study, but only partially confirmed in the second study. It was hypothesized that two entities in a single image have a higher relational strength in incongruent shadow advertising than in juxtaposition advertising. In the first study this theory was confirmed. In the second study however, this theory was only confirmed for one of the three advertisements; only for the T-rex advertisement. In the first study the ratings for the T-rex advertisement were also the most striking for the shadow and the juxtaposition versions. The shadow T-rex advertisement was rated with the highest level of relational strength, while the juxtaposition T-rex advertisement was rated with the lowest level of relational strength. This might have led to the results in the second study, where only the T-rex advertisement revealed an effect of relational strength between two entities in a single image.

The most important difference between the T-rex advertisement and the other two advertisements is that the T-rex advertisement consisted only out of visuals, while the other two advertisements consisted out of visuals as well text. The simplicity, only visuals, of the T-rex advertisement might have caused extra attention for the two entities in the single image,

which lead to the results in this thesis. In advertisements with text the possibility exists that a relation between two entities is constructed using the visuals as well as the text. This might result in a different judgment of the relation between two entities than when an advertisement only consists out of visuals. Further research should focus on the relation between text and visuals and its effect on relational strength in incongruent shadow advertising in order to explain the results that were found in this thesis.

The second hypothesis, *a negative framed message leads to a higher relational strength between two elements (caster and its shadow/two separated entities in one image) than a positive framed message*, was fully supported. It was found that viewers perceived a higher relational strength between two entities in a single image in negatively framed messages than in positively framed messages. When a viewer perceives information as more important, salient and credible, which is the case in negative information communication (Banks et al., 1995; Davis, 1995), the relation between two entities in a single image is perceived as stronger.

5.1.2 Aesthetic Appreciation

The third hypothesis, *the visual structure shadow incongruities is more aesthetically appreciated in terms of (a) likeability, (b) novelty and (c) design than the visual structure juxtaposition*, was fully confirmed. An advertisement with the visual structure shadow incongruity is more aesthetically pleasurable than the visual structure juxtaposition in terms of likability, novelty and design. In the theoretical framework it was theorized that the level of complexity of an advertisement is determining for the level of aesthetic appreciation of an advertisement. A more complex advertisement is more pleasurable than a less complex advertisement (Berlyne, 1971; McQuarrie & Mick, 1999; Teng & Sun, 2002) and since shadow incongruity advertisements are more complex, but not too complex to resolve, they are more aesthetically appreciated. This theory is confirmed in this study. A more complex advertisement (a shadow incongruity ad) is more aesthetically appreciated than a less complex advertisement (a juxtaposition ad) in terms of likeability, novelty and design.

Hypothesis four, *negatively framed advertisements are more aesthetically appreciated in terms of (a) likeability, (b) novelty and (c) design than positively framed advertisements*, was partially supported. It was hypothesized that negatively framed advertisements would be more aesthetically appreciated than positively framed

advertisements, because viewers tend to perceive negative information as more salient and credible, and when a message is perceived as more salient and credible, the message is more aesthetically appreciated (Jin & Phua, 2014). Negatively framed advertisements are more aesthetically appreciated in terms of novelty and design, but a trend was only found for likeability.

This result might have occurred, because design and novelty are more about the creation of the ad in comparison with other ads and likability is more about the feeling of beauty one has about the ad. A viewer might dislike a negatively framed advertisement, because the viewer feels frightened, uncomfortable or troubled when looking at the ad, but still like the design of the ad and perceive the ad as novel. Further research should focus on the effect of the different determinants of aesthetic appreciation in the field of message framing in incongruent advertising. In this thesis only one interaction effect was found: an interaction effect of incongruence and message frame on novelty. A positively framed message is rated much better in the shadow incongruity advertisements than in the juxtaposition advertisements for novelty.

5.1.3 Message Acceptance

The fifth hypothesis, *The visual structure shadow incongruity leads to a higher message acceptance than the visual structure juxtaposition*, was fully supported. When shadow incongruity is used advertisements the communicated message is better accepted than when juxtaposition is used. When a communicator pre-establishes an inevitable relation between two entities and when the message is more pleasurable arousing, the message is better accepted than when this is not the case.

The sixth hypothesis, *A negative framed message leads to a higher message acceptance than a positive framed message*, was not supported. Negatively framed messages did not lead to a higher message acceptance than positively framed messages, despite the fact it was expected. It was expected that negatively framed messages would be accepted more, because people tend to perceive negative information as more important, credible and salient (Banks et al., 1995; Davis, 1995). The hypothesis might have not been supported, because the products or services that were advertised in this thesis were not important enough on a personal level. An advertisement about the danger of unofficial car service might have not been accepted more in shadow incongruity advertising than in

juxtaposition advertising, simply because a viewer is not interested in the advertisement at all, because the viewer does not own a car for example. In future research it should be asked whether the advertised product or service is relevant for the participant.

5.2 Limitations

In this thesis the effect of two visual structures on relational strength, aesthetic appreciation and message acceptance was examined. As with every study, a few limitations have to be mentioned.

First, though in every advertisement version (T-rex, soldier and crocodile) all the shadow were the same, the caster was different for positive and negative advertisements within a version. This might have resulted in a different rating for the positive and negative advertisements within a version, because of the difference in casters and not because of the difference in valence. In future research, when the role of valence in incongruent advertising is examined again, research should try to use the same casters and shadow in one advertisement version. Though this is practically impossible, it is the only way to improve the validity of the results.

Second, the interchangeable use of well-known and less-known brands might have affected the results as well. People might have aesthetically appreciated an advertisement more if they had to rate a brand they have positive thoughts about. The same applies for relational strength and message acceptance. Further research should include the effect of prior brand knowledge on the outcome of shadow incongruity studies. In this way it can be prevented that the results are influenced by prior brand knowledge.

Third, the sample was only spread in a municipality in the Netherlands. This implies that students, retirees and unemployed people were not taken into consideration in this thesis. Persons from other professional fields were excluded from this research as well. Besides that, only individuals with Dutch nationality participated in this thesis. In future research different nationalities and population groups should participate.

5.3 Future research

In this thesis type I shadow incongruities were examined in terms of relational strength, aesthetic appreciation and message acceptance. The visual structure shadow incongruity was compared with the visual structure juxtaposition.

Philips and McQuarrie (2004) created a model wherein visual structures were ranked according to their level of complexity. Juxtaposition is the least complex visual structure, followed by fusion and replacement. In this thesis only the visual structure juxtaposition was compared with shadow incongruity, but further research could focus on visual structures with a higher level of complexity, such as fusion and replacement. In this thesis it was shown that the more structurally complex shadow incongruity resulted in a higher relational strength between two entities in a single advertisement, a higher aesthetic appreciation and a higher message acceptance than the less structurally complex juxtaposition. In juxtaposition the two entities in one single image are detached (two separated entities) from each other, while in shadow incongruity the two entities are attached. In further research focus should be placed on the comparison between shadow incongruity and fusion, or shadow incongruity and replacement, and how these visual structures affect the relational strength, aesthetic appreciation and message acceptance of advertisements. A different presentation of two entities in one single image might have its effect on how a viewer process and respond to the ads.

Schilperoord and van Weelden (2017) distinguished between three types of shadow incongruities. In this thesis only one shadow incongruity type, the revealing shadow, was examined. In earlier research also Chrysospathi (2017) only focused on this type of shadow incongruity as well. Future research should focus on the other two shadow incongruity types. It will be interesting to examine how viewers process and respond to advertisements when another so-called anchoring rule (Dee and Santos, 2009) is violated.

Finally, up to now only the interpretation of shadow incongruity advertisements have been examined. Chrysospathi (2017) only focused on relational strength and aesthetic appreciation and in this thesis the focus was placed on relational strength, aesthetic appreciation and message acceptance. Future research should also focus on the attitude towards the advertised product and purchase intentions. By doing this the real effects of shadow incongruity advertising will be mapped.

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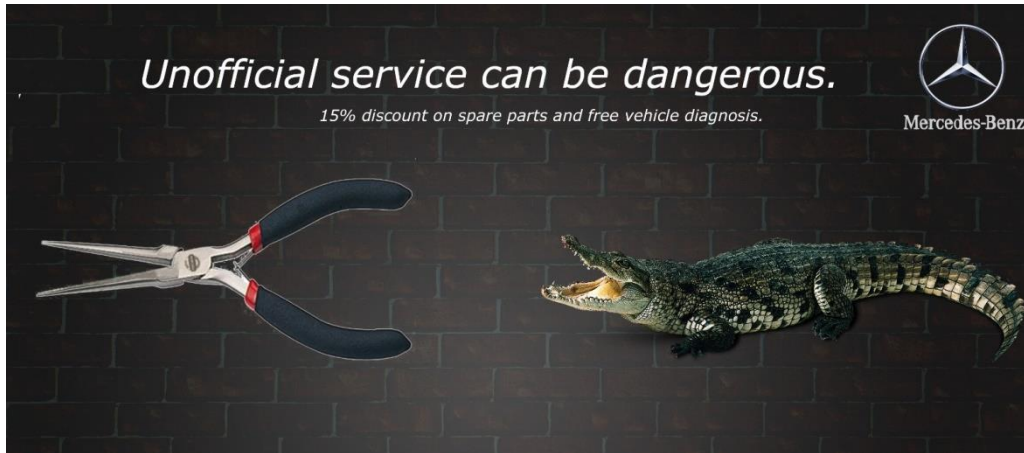
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Appendix A

Version 1 - Crocodile

Juxtaposition + negative frame



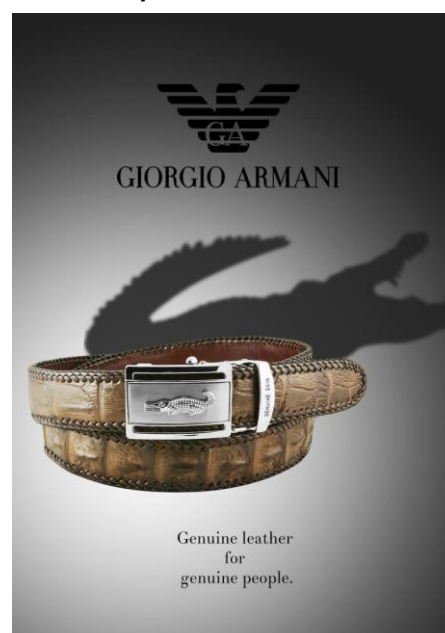
Juxtaposition + positive frame



Shadow + Negative frame



Shadow + positive frame



Version 2 - Tank

Juxtaposition + negative frame



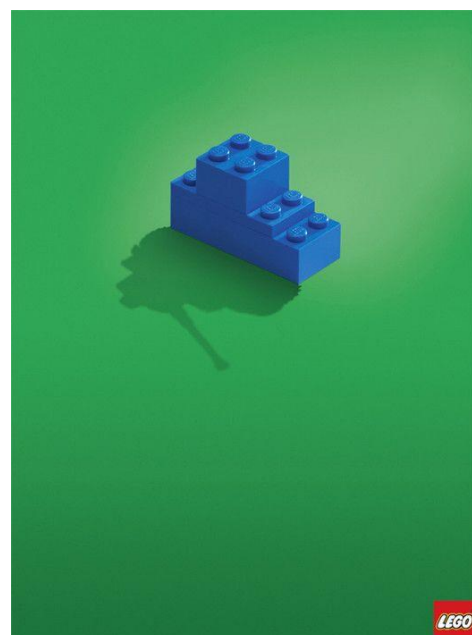
Juxtaposition + positive frame



Schaduw + negative frame



Schaduw + positive frame



Version 3 – Soldier

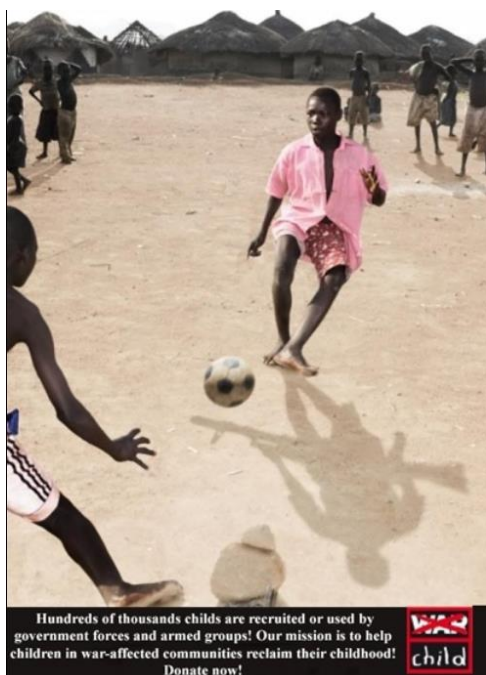
Juxtaposition + negative frame



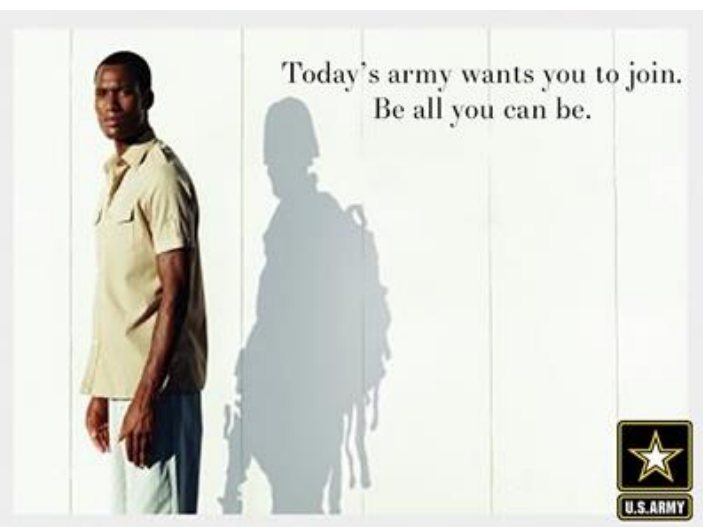
Juxtaposition + positive frame



Shadow + negative frame

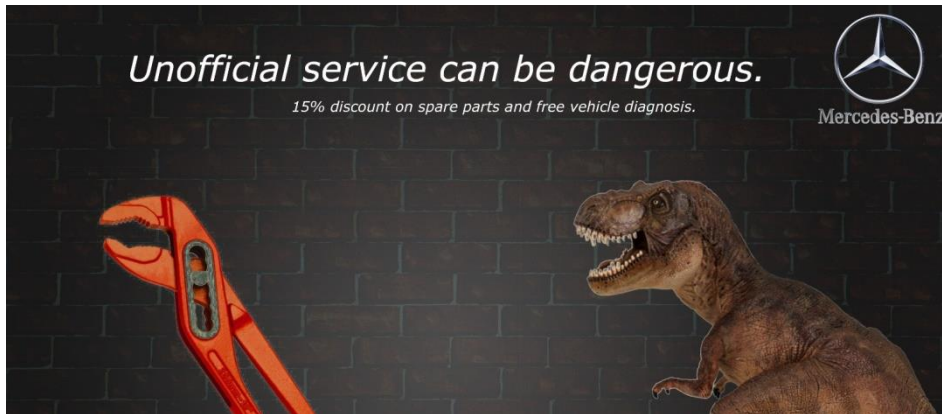


Shadow + positive frame



Version 4 – T-rex

Juxtaposition + negative frame



Juxtaposition + positive frame



Shadow + negative frame



Shadow + positive frame

