Visual Persuasion in Selected English and Arabic Covid-19 Editorial Cartoons (2020-2021): Vaccine Portrayal

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Abstract

Given the significant role of editorial cartoons in reflecting and shaping public opinion, it is important to examine visual persuasion in editorial cartoons related to Covid-19. By employing Cockcroft and Cockcroft's (1992) model of persuasion and complementing it with Attardo's (2001, 2008) General Theory of Verbal Humor (GTVH) to investigate pathos, Wodak's (2001) topoi to investigate logos, and Birdsell and Groarke's (2007) theory of visual argument, the study attempts to examine how the creators of selected English and Arabic editorial cartoons, published in the years 2020 and 2021, attempt to dispel the misinformation associated with coronavirus vaccine and persuade their audience visually with their stance to enhance a certain behavior-namely, to get vaccinated against coronavirus. Data analysis attempts to examine how the selected cartoons attempt to achieve visual persuasion by highlighting the usefulness and advantages of the vaccine and stressing the disadvantages and dangers of coronavirus and of being unvaccinated. However, the effect of the cartoons on the target audience is beyond the scope of this study.

Keywords: visual persuasion, editorial cartoons, GTVH, topoi, theory of visual argument, coronavirus vaccine

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1. Introduction

Persuasion is an attempt to influence the audience's 'beliefs', 'desires', and 'actions' too (Joo et al., 2014, p. 1). It is an "act designed to create change in an audience"- a change in their 'thought', 'behavior', or 'laws' (Jordan, 2021, p. 10). Persuasion integrates "factual information" and "emotional appeals" to change the audience's mind to accept the author's position and promote a certain behavior (Ondimu, 2012, p. 135). Visual persuasion is "convincing someone to take a specific action based primarily… on an image or video" (Jordan, 2021, p. 12). The importance of visual material is that it can express meanings that might not be as effectively expressed by language (Miller, 1998; Joffe, 2008).

Cartoons are a form of visual representation which provide a commentary on an issue in a funny manner, reflecting the opinions of their creators. Cartoons are a significant means of visual communication because they can both 'reflect' and 'mold' public opinion, thereby changing the reader's view on a given issue. By converting 'complex' and 'opaque' events to visual 'depictions' that can be easily comprehended, cartoons are a valuable means of visual communication and visual persuasion (Abraham, 2009, p. 119).

For a long time, visuals have been part of the visual culture of medicine, shaping people's understanding of health and illness issues. Eighteenth century comics in England presented morality tales that echoed public health concerns. Similarly, there have been comics about HIV. Currently, comics and cartoons have taken up the challenge of tackling coronavirus issues and presenting them to the lay reader. Hence, cartoons contribute to "our understanding of illness and health" (Callender et al., 2020, p. 1061).

For persuasion to be successful, both the issue and the arguments supporting it "must matter to the audience" and "have immediacy" (Cockcroft & Cockcroft, 1992, p. 82). The selected cartoons in this study date to the high days of the pandemic when people around the globe were extremely confused about the new virus and uncertain about the vaccine. With misinformation campaigns about the vaccine emerging and spreading worldwide, cartoonists took over the challenge of fighting such campaigns by highlighting the advantages of the vaccine and the disadvantages of being unvaccinated.

1.1. Aim of the Study

The present study aims to examine how far Cockcroft's and Cockcroft's (1992) model of persuasion, traditionally applied to verbal discourse, applies to visual discourse (i.e., cartoons); exploring the tools of visual persuasion employed in English and Arabic newspaper cartoons about coronavirus vaccine in the years 2020 and 2021; investigating how cartoonists engage the readers emotionally (pathos) and mentally (logos) to persuade them with their stance; revealing the role which humor plays in persuading the audience; and explaining the potential reasons behind the apparent similarities and differences across the two data sets.

1.2. Research Questions

The present study aims at answering the following questions:

1. What are the cartoonists' stances reflected in each data set?

2. What are the most common means of engaging the readers emotionally (pathos)?

3. What role does humor play in engaging the readers emotionally?

4. What are the most common means of engaging the audience mentally (i.e., topoi)?

5. What are the most common means of visual argument?

6. How do the different tools of ethos, pathos, logos, and means of visual argument interact to achieve the purpose of persuasion?

7. What are the similarities and /or differences between the two data sets, and what implications might they have?

2. Literature Review

El Refaie (2009) investigates the creation of humor in verbo-visual cartoons. The study proposes a framework for the analysis of "multimodal humor of a verbo-visual variety" in cartoons (p. 75). The framework introduced encompasses the superiority and the release theories of humor, the verbal theory of humor, and a pragmatic account of humor creation and appreciation.

Tsakona (2009) employs the GTVH to investigate how humor is created in cartoons. The analysis is complemented by cognitive and semiotic approaches, and it focuses on 'exaggeration', 'contradiction', and 'metaphor' as mechanisms of creating humor. The study concludes that humor in cartoons mainly arises from the interaction between verbal and visual elements and from the use of visual metaphors. The study attempts to integrate linguistic and semiotic approaches to humor, thereby taking the GTVH a step forward. Whereas the GTVH accounts for the verbal mechanisms of humor, cognitive and semiotic approaches account for the role images play in creating humor.

Hallet and Hallet (2012) use a multidisciplinary approach to examining how swine flu is tackled in cartoons, illustrating how fears are represented through language and media cross culturally. The study employs Lakoff and Johnson's conceptual metaphor theory and Medhurst and DeSousa's topoi model to examine cartoons representing the swine flu. The cartoons are taken from different countries: India, the US, Canada, etc., and they are all in English. The study explores the fears expressed visually or textually and the metaphors used to reflect them to determine the metaphors 'unique' to each culture the cartoons belong to and those common across different cultures.

Wekesa (2012) analyzes visual argumentation in cartoons on the violence that hit Kenya after the elections in 2007 and 2008. The study applies Birdsell and Groarke's Visual Argument Theory to "visual-only cartoons". The study examines "how the visual tropes of caricature, portraiture and analogy work with cultural and emotional memory to enhance the argumentation power in cartoons" (p. 225). The study concludes that "visuals can argue as simply and forcefully as their verbal counterparts" due to the blending of caricatures, which allow cartoonists to ridicule and satirize public figures, and portraitures, which allow the readers to recognize the public figures easily (p. 237).

Aguero Guerra (2016) introduces a genre-specific model for the interpretation of humor in cartoons. The model completes previous theories of humor by analyzing the visual components in cartoons and how such components interact with the verbal caption to reflect the humorous message of the cartoon. The study mainly focuses on the process of decoding and appreciating the humorous message underlying Spanish cartoons about the Spanish economic crisis.

Groarke (2017) presents an approach to the analysis of editorial cartoons based on contemporary argumentation theory, informal logic, and Kjeldsen's model of visual and multimodal argumentation. The study examines political cartoons employing the figure of Pinocchio to represent political figures.

Pinocchio's extended nose is used in editorial cartoons to symbolize liars who cannot be trusted. The study refutes the claim that images cannot be negated.

Joubert and Wasserman (2020) examine the portrayal of the coronavirus in 497 cartoons in South African newspapers during the early months of the pandemic. The study aims to reveal how cartoonists create meaning and influence public opinion through the visual rhetorical tools of color, morphological characteristics and anthropomorphism employed in their representations of the virus. Data analysis shows that coronavirus is portrayed mainly in green color, which is associated with sickness, or red color, which is associated with danger and threat. The virus is also anthropomorphized; it is given human characteristics, mainly facial expressions of evil and malice. The study finds that fear is the most predominant emotional tone and concludes that editorial cartoons provide a valuable means that helps the public understand the pandemic and helps shape the public attitudes and sentiments around it. Thus, cartoons both reflect and shape the public perception of and attitude towards the virus.

In view of the above mentioned, it is obvious that the literature abounds with works that examine humor in cartoons (El-Refaie, 2009; Tsakona, 2009), others that examine the representation of viruses and diseases (Hallet & Hallet, 2018; Joubert & Wasserman, 2020), and studies that examine visual argumentation (Wekesa, 2012; Groarke, 2017). However, such studies use mono-lingual cartoons, mainly English- except for Tsakona (2009) that uses Greek cartoons and Aguero Guerra (2016) that uses Spanish ones. Thus, it can be deduced that there seems to be scant- if any- literature that investigates persuasion from the perspectives of the GTVH (to investigate pathos) and topoi (to investigate logos) as well as the theory of visual argument in cartoons from different languages and different cultures, namely English and Arabic. The present study attempts to fill in this gap.

3. Theoretical Framework

3.1. Persuasion

In interaction, human beings attempt to make one another share their opinions, believe what they say, and support their actions. Halmari and Virtanen (2005) define persuasion as "language that attempts to change or reconfirm the opinions and behaviors of an audience". However, for persuasion to be effective, it should be "kept implicit" since people do not like to be persuaded against their will (p. 229). Persuasion is a "process in which communicators try to convince other people to change their attitudes or behavior" about an issue by transmitting a message "in an atmosphere of free choice" (Perloff, 2003, p. 8).

Persuasion intends to result in a change of 'attitudes' and 'actions' (Cockcroft & Cockcroft, 1992, p. 84). Despite the significant role of the audience in the persuasion process, the effect of the persuasive text on the audience is beyond the scope of this study. A text can be said to be persuasive if the "communicative intention" of its producer is "to influence and evaluate social actors, actions and events" and "change or affect the beliefs and actions of the listeners or readers" (Dontcheva-Navratilova et al., 2020, p. 15).

3.2. Cockcroft and Cockcroft's Model of Persuasion

Cockcoft and Cockcroft's (1992) model of persuasion is based on Aristotle's principles of ethos, pathos, and logos. Ethos is persuasion by "moral character"; pathos is persuasion by "putting the hearer into a certain [emotional] frame of mind"; and logos is persuasion by "the speech itself, when we establish the true or apparently true" (p. 8).

3.2.1. Ethos

Ethos is "the ethical appeal", that is "the voice of the persuader, the linguistically mediated message of her or his believability, reliability, and competence" (Halmari & Virtanen, 2005, p. 5). As Cockcroft and Cockcroft (1992) put it, it is "persuasion by 'moral character'" (p. 8) or "the 'proof' brought about by the character or virtue of the speaker (revealed in his speech)" (p. 19). Ethos refers to the credibility of the speaker.

Audiences are not only persuaded by the argument, but by the character of the persuader as well. According to Aristotle, a speaker's ethos is made up of three qualities: (1) practical wisdom, (2) virtue, and (3) good will. Brochers (2013) illustrates that practical wisdom is related to "making decisions and having knowledge of what one is speaking about". Virtue "refers to the qualities of compassion expressed by a speaker". Goodwill means "having the audience's best interests at heart" (p. 40).

Dontcheva-Navratilova et al. (2020) demonstrate that the "strategies associated with ethos aim at enhancing the credibility and trustworthiness of the persuader". These strategies are related the persuader's competence (i.e., how far the information they offer is reliable), their community membership (i.e., assuming values and having beliefs shared by the audience), and their benevolence (i.e., being willing to "impart this information to the audience") (p. 21).

Ethos is divided into personality and stance. According to Cockcroft and Cockcroft, personality is the public image that the persuader communicates to the audience. Stance, on the other hand, is the persuader's 'attitude'; it is the "position or viewpoint adopted by the persuader" (p. 9). The communication of stance involves the expression of the speaker's emotions towards the topic and the audience;

emotions ranging from 'pity', 'rage' or 'grief' to 'humour' (p. 23).

3.2.2. Pathos

Audiences can be persuaded through their emotions. By emotional engagement, Cockcroft and Cockcroft mean that a persuader should "orient emotional appeals precisely towards audience and topic" and "found them on sources of feelings accessible to speaker and audience" (p. 9). Without emotion, "effective persuasion is unlikely to take place" (p. 40). Emotional engagement can be realized by graphic vividness and emotive abstraction.

First, graphic language is language "appealing directly to the senses" which helps to "recreate a scene vividly for the audience, thus arousing their emotions" (p. 45). Second, emotive abstraction is the use of abstract concepts with strongly positive or negative associations, such as 'liberty', 'justice', 'tyranny', etc. When used in an appropriate context, words like these "arouse powerful emotions in an audience" (p. 45).

3.2.3. Logos

According to Cockcroft and Cockcroft, logos includes the arguments used in the discourse, "the structure of thought", and the "sequence, coherence and logical value of these arguments" (p. 10). The persuader's stance alongside their emotional engagement with the audience "determine the choice of persuasive arguments" in the text (p. 58).

3.3. Attardo's GTVH

Humor has been studied from different disciplines since Plato and Aristotle, and it has been addressed both linguistically and psychologically throughout history. Humor is mainly discussed across three disciplines: superiority, incongruity, and relief theories. The incongruity approach is the most prevalent in linguistic studies since it accounts for "the cognitive and pragmatic

processes underpinning the understanding of humorous texts", and it is "compatible with other linguistic … approaches" which were ignored by traditional humor studies (Dynel, 2014, p. vii).

The incongruity approach to humor in linguistics is best represented by Attardo and Raskin's (1991) 's General Theory of Verbal Humor (GTVH), which has been expanded and developed later by Attardo (2001, 2008). The GTVH is based on six knowledge resources which are "tapped into when generating a joke" (Attardo, 2001, p. 22). These are:

1. **Language:** It is "the verbalization of a text" which is responsible for "the exact wording" of a joke (Attardo, 2001, p. 22). Put differently, language is "the lexical, syntactic choices of the text" (Attardo, 2008, p. 1205).

2. **Narrative strategy:** It is the form of the narrative organization of the joke which can be "a simple narrative", 'a dialogue', "a (psuedo-)riddle", or "an aside in a conversation". Humor, nevertheless, is not only narrative; it can be dramatic or visual (Attardo, 2001, p. 23).

3. **Target:** The target of the joke is the 'butt' of the joke, which typically includes "names of groups or individuals with (humorous) stereotypes attached to each" (Attardo, 2001, p. 23). However, it can be expanded to include "ideological targets", such as 'marriage' or "romantic love". An ideological target can be associated with "persons and /or identifiable groups" and can be "targeted with aggression" (Attardo, 2001, p. 24).

4. **Situation:** The situation of the joke is "the 'props' of the joke: the objects, participants, instruments, activities, etc.". In other words, it is what the joke is about (Attardo, 2001, p. 24).

5. **Logical Mechanism:** It is the "resolution of the incongruity" created by the two scripts activated by a joke (Attardo, 2001, p. 25). The logical mechanism employed in a joke presents a 'local' logic; that is, "a distorted, playful logic, that does not necessarily hold outside of the world of the joke". Logical mechanisms can range from straightforward juxtapositions to false analogies or figure ground reversals (Attardo, 2001, pp. 25-26).

6. **Script Opposition:** It refers to the overlap between the two scripts that a joke activates. It is a very abstract knowledge resource, and it is present in any humorous text (Attardo, 2001).

3.4. Topoi

Wodak (2001) defines topoi as "parts of argumentation which belong to the obligatory … premises". They are "content-related warrants" or "conclusion rules" that connect an argument (i.e., the premise) with the conclusion (i.e., the claim). Thus, topoi "justify the transition from the argument or arguments to the conclusion" (p. 74). Similarly, van Dijk (2000) defines topoi as "'standard' arguments" which "represent the common sense reasoning typical for specific issues" (p. 97). Therefore, topoi are commonly used in argumentative and persuasive debates (p. 98). It can be deduced that topoi are legitimate argumentative tools that can be used to persuade one's audience with a given standpoint. The following is a list of topoi introduced by Wodak (2001, p. 74):

1	Usefulness, advantage	9	Finances
2	Uselessness, disadvantage	10	Reality
3	Definition, name-interpretation	11	Numbers
4	Danger and threat	12	Law and right
5	Humanitarianism	13	History
6	Justice	14	Culture
7	Responsibility	15	Abuse
8	Burdening, weighting		

3.5. Birdsell and Groarke's Theory of Visual Argument

Birdsell and Groarke (1996) maintain that like words, visual images can be 'vague' and 'indeterminate', yet they can "sustain an argument" (pp. 2-3). Visual images can present claims "which are open to debate, confirmation and argument" (p. 4). A poster that warns against smoking by representing getting addicted to smoking like a fish getting hooked to the hook of an angle has a clear message; it has an anti-smoking position (p. 3).

Birdsell and Groarke (2007) define visual arguments as "arguments conveyed …. through images" (p. 108). Images can play a key role in an argument. First, they can "present information and evidence … relevant to an argument" more precisely and succinctly. Second, images have "rhetorical advantages", and they are "more forceful and persuasive than words" (pp. 103-104).

Birdsell and Groarke's (2007) model of visual argument is based on five means. These are:

1. **Visual flags**: An image acts as a visual flag when it attracts attention to a certain message conveyed to some audience "like a waved flag, captures attention" (p. 104),

2. **Visual demonstrations**: An image can be a visual demonstration when it convey[s] information which can best be presented visually". A visual demonstration can be the "most effective way" to explain or describe a thing, such as how the Victorian houses look like in San Francisco (p. 105),

3. **Visual metaphors**: They "convey[..] some claim figuratively, by portraying someone or something as some other thing". For example, to say that someone is very slow, they can be represented by drawing their head on the body of a snail (p. 105),

4. **Visual symbols**: They "have strong associations that allow them to stand for something they represent". For example, a cross is a symbol of Christianity and a skull or a skeleton or the grim reaper represents death (p. 106), and

5. **Visual archetypes**: A visual archetype is a kind of visual symbol "whose meaning derives from popular narratives". An example is the extended nose that symbolizes lying, which is derived from the story of Pinocchio. The source of visual archetypes can be "culturally pervasive narratives", such as Aesop's fables, the story of Christ, and classical mythology (p. 105).

4. Cartoons

Cartoons are a form of visual representation which provides a commentary on a social or political issue in a funny manner, reflecting the opinions and standpoints of their creators. They are a significant means of visual communication since they can both 'reflect' and 'mold' the public opinion, thereby changing the

reader's view on a given issue (Abraham, 2009, p. 119). A cartoon is usually made up of two structural components: verbal and visual. Both "link the cartoon to the part of socio-political reality it is about" and direct the reader to grasp "the evaluative stance of the cartoon" regarding the claim it makes about its topic (van den Hoven & Schilperoord, 2017, p. 141).

A cartoon usually involves a topic domain and an auxiliary domain. The topic domain, as van den Hoven and Schilperoord (2017) explain, "capture[s] all references to the cartoon's topic" in addition to the 'foreknowledge' the reader taps into when interpreting it. Any cartoon must have a topic domain. An auxiliary domain, on the other hand, serves the function of evaluating the topic of the cartoon. Typical auxiliary domains refer to common regular events such as cooking, marriage, sports, etc., which function as visual metaphors. Others can use myths, biblical references, cultural/ historical references, etc. (pp. 142-143). Domains are tantamount to scripts in the GTVH.

van den Hoven and Schilperoord (2017) explain that the relationship between the two domains can be similarity/analogy or dissimilarity/disanalogy. Incongruities in cartoons usually involve a 'contrast' or a 'contradiction' between "how or what things should be" and "how or what, according to the cartoon(ist), they are". This is how a cartoon can evaluate "a political actor as incompetent" or a "socio-political event as damaging or illegitimate". Incongruity, thus, is the most significant trope through which a cartoonist directs the readers to dig for the underlying opinion or standpoint (p. 140).

4.1. Cartoons and Persuasion

Cartoons are a combination of "pictorial representation", "verbal text", 'symbols' and 'humor' (Genova, 2018, p. 86). Political cartoons, also known as editorial cartoons, are "persuasive visual tools" which 'condense' and 'simplify' a complex issue in a visual form that can be understood easily by the public (Joubert & Wasserman, 2020, p. 9). By drawing the reader's attention to a certain issue, an editorial cartoon can serve different functions; it can embarrass someone, criticize an action, or remind the reader of an important thing. Since they merge political or social commentary along with humor in a way that abounds in caricature, ridicule, and sarcasm (Groarke, 2017, p. 81), cartoons can be highly controversial and contentious.

Earlier literature on political cartooning suggests that a political cartoon can be used to criticize a person or an issue, ridicule somebody, or argue. Abdel-Raheem (2020) proposes that, in addition to these functions, cartoons can also be used to achieve the acts of warning, threatening, complaining, wishing, condemning, or praising. As Abdel-Raheem (2020) puts it, "political cartooning is action"-representing rising prices as fires is an act of 'complaining'; portraying a rapist or a molester as a wolf is an act of 'condemning'; drawing a ship sailing towards a disaster is an act of 'warning', and so on (p. 77).

Given their visual nature, cartoons are more preferable to the readers than verbal means of communication expressing the same issue (Giarelli & Tulman, 2003; Tsakona, 2009). Abdel-Raheem stresses that unlike different news outlets, an editorial cartoon does not merely 'summarize', or 'recall' information of events reported in other news outlets. Rather, it expresses shared knowledge about social or political events "from its own perspective" using "evaluative language that expresses opinions and attitudes" (p. 88).

Given the limited space offered to the cartoonist, the argument underlying a given cartoon is a compressed one. In Groarke's (2017) words, cartoons aim for "a powerfully focused argument which strikes to the heart of an issue". The 'succinctness'

characterizing cartoons is "an argumentative strength rather than a weakness" (p. 107).

4.2. Cartoons on Coronavirus Vaccine

Callender et al. (2020) hold that in an "increasingly visual society", like today's society, images play a vital role in shaping people's visual culture of contagion. Images of masking, social distancing, and illustrations of the symptoms and the virus could be "epidemiological maps" or 'infographics'; that is, they "serve to inform, provide meaning, and illustrate the outbreak narrative in ways that help us to process, reflect on, and understand our experiences". Continuous exposure to such images helps to shape people's understanding and knowledge of the virus and its outbreak. Thus, being "a visual medium and cultural product", cartoons contribute significantly to the visual culture of covid-19 pandemic (p. 1061).

5. Methodology

5.1. Data of Analysis

The data of analysis used in the present study are editorial cartoons about coronavirus vaccine in the years 2020 and 2021- a period characterized by people worldwide being confused about the emergent virus and suspicious of the vaccine. With misinformation campaigns about the vaccine spreading, cartoonists attempted to fight such campaigns by highlighting the advantages of the vaccine and the disadvantages of being unvaccinated.

The study examines 5 English cartoons (Data set A) and 5 Arabic cartoons (Data set B). The English cartoons are given the labels (1-5), and they are retrieved from *politicalcartoons.com* and *The Telegraph*. The Arabic cartoons are given the labels (6-10), and they are retrieved from *Al-Rai, Al-Jareeda, Al-Youm Al-Sabe, Al-Ghad*, and *Al-Watan*.

These cartoons have been selected for three reasons. First, Data set A comprises editorial cartoons from American and British newspapers. Similarly, Data set B comprises cartoons from Jordanian, Egyptian, Kuwaiti, and Omani newspapers, which should reflect cultural diversity in the portrayal of the vaccine across different communities using the same language. Second, the selected cartoons explicitly tackle Coronavirus portrayal, by employing a verbal and/ or a visual element referring to it. Third, in Data set A, three cartoons date to December 2020, and in data set B, two cartoons date to November 2020 and one cartoon dates to December 2020. Given that coronavirus vaccines; namely, AstraZeneca, Pfizer and Moderna, were first introduced in December 2020, the selected cartoons reflect and shape people's attitudes towards the vaccine shortly before and in the first days of its release worldwide. In each data sets, two cartoons date to 2021, after more vaccines were released: Sinopharm, Sputnik, and Moderna. The cartoons dating to 2021 attempt to persuade those who have not been vaccinated earlier to get the vaccine by employing different means of persuasion.

5.2. Procedures of Analysis

In the present study, the researcher analyzes each cartoon in terms of the underlying message of the cartoonist and how this message is reflected in terms of ethos, pathos, and logos.

1. Ethos is discussed in terms of stance.

2. Pathos (emotional engagement) is discussed in terms of emotive abstraction and is complemented with the GTVH, which is discussed in terms of script opposition (SO), logical mechanism (LM), and target (TA).

3. Logos is discussed in terms of topoi.

4. Last, Birdsell and Groarke's means of visual argument detected in each cartoon are discussed. The four

principles of ethos, pathos, logos, and means of visual argument are integrated to explore the visual persuasion underlying each cartoon.

5. The researcher analyzes the English cartoons individually (data set A), then the Arabic cartoons individually (data

set B), and finally compares the findings of data analysis in each data set.

6. Results and Discussion

6.1. English Data

1
The Salt Lake Tribune. 3/ 12/ 2020.

2
The Buffalo News. 21 /12 /2020.

3
The Telegraph. 24/ 12/ 2020

4
The Salt Lake Tribune. 27/ 5/ 2021.

5
The Salt Lake Tribune. 23/ 9/ 2021.

6.1.1. Ethos: Stance

As illustrated in Table (1), in the English data, the cartoonists support vaccination strongly and condemn and even ridicule anti-vaxxers.

Cartoon	Cartoonist's stance
1	believes in the power of vaccination to save humanity from drowning
2	supports vaccination, opposes anti-vaxxers, warns against the negative consequences of not getting vaccinated
3	supports vaccination, supports the precautionary measures of wearing masks, warns against the big threat posed by coronavirus
4	supports abiding by the precautionary measures of wearing a face mask, getting vaccinated, and social distancing so that Covid cases could drop
5	supports vaccination, opposes anti-vaxxers, evokes emotions of sarcasm & irony of anti-vaxxers

Table (1)- Ethos in English data

6.1.2. Pathos

6.1.2.1. Emotive Abstraction

In cartoon (1), the word '*rescue'* has positive associations, which helps to make a positive representation of the topic of the cartoon- covid vaccine. In cartoon (2), the topic "*Covid vaccine*" is a neutral term which acquires positive connotations due to the contrast between the two images of the man rejecting vaccination and the man catching COVID-19 and being on a ventilator. Cartoon (3) is devoid of language, other than the label "*NHS*" (*National Health Service*) which is rendered positive associations given the portrayal of NHS members as angels in Archangel Michael's battle against the dragon. In cartoon (4), the word "*the holocaust*" has negative associations in the collective memory of the audience. Nevertheless, such associations are deterred by the negating word '*not'*. The communal experience of the readers makes them fully aware that anything which is not like the holocaust is not bad, which makes them more likely to be persuaded by the cartoonist's message (i.e., the hygiene protocol of social distancing, masking, getting vaccinated, etc.). Finally, in cartoon (5), the word '*high'* has positive associations of superiority, authority, and power. In contrast, the phrase "*some random clown*" has negative associations highlighting the foolishness of anti-vaxxers.

6.1.2.2. GTVH

Script Opposition

Cartoon	Script Opposition
1	COVID PANDEMIC/ DROWNING IN THE SEA ------ LAUNCHING COVID VACCINE/ LAUNCHING A RESCUE BOAT
2	HEALTH X SICKNESS- LANGUAGE X IMAGE
3	WAR AGAINST CORONAVIRUS/ ARCHANGEL MICHAEL'S BATTLE AGAINST THE DRAGON --- GOOD/ BAD
4	THE HOLOCAUST/ COVID-19 HYGIENE PROTOCOL
5	GOOD/ BAD--- VACCINATION/ ANTI- VACCINATION

Table (2)- Script opposition in English data

As for script opposition, each cartoon has a topic domain, which is coronavirus vaccine and an auxiliary domain through which the topic is represented, and the cartoonist's stance is reflected. As illustrated in Table (2), the topic domain in cartoon (1) is CORONAVIRUS VACCINE, which is represented as a RESCUE BOAT. On the other hand, being unvaccinated and waiting for the launch of a vaccine is represented as drowning in the sea. Cartoon (2) is divided into 2 panels with a script opposition between HEALTH and SICKNESS. In the first panel, a man rejects vaccination saying, "*you're not sticking that in my body*". In the second panel, the same man is in the ICU and a ventilator tube is stuck in his mouth, which gives rise to an opposition between LANGUAGE and IMAGE. Cartoon (3) is based on the topic domain of the NHS's battle against coronavirus, and the auxiliary domain is Archangel Michael's battle. This helps the cartoonist to demonize coronavirus, by representing it as the dragon and make a positive representation of the vaccine, by portraying it as a sword used by Archangel Michael. In cartoon (4), the topic domain is the HYGIENE PROTOCOL that should be followed during the pandemic, which includes getting vaccinated. The auxiliary domain is NOT THE HOLOCAUST. Last,

in cartoon (5) there is a script opposition between VACCINATION and ANTI-VACCINATION. Whereas the Pope, the Dalai Lama, and the LDS prophet urge their followers to "*get the vaccine*", an anti-vaxxer described as "*some random clown*" says that the vaccine is "*the mark of the beast*".

The five cartoons are broadly based on a script opposition between GOOD and BAD. In cartoon (1), GOOD is represented by the rescue boat/vaccine and BAD by being unvaccinated awaiting the vaccine and facing drowning. Similarly, in cartoon (2) GOOD is represented by the vaccine shot offered to the man and BAD by the man catching the virus and falling sick for being unvaccinated. In cartoon (3), GOOD is represented by the religious figure of Saint Michael and the angels helping him in his battle, while BAD is represented by the dragon/the devil/coronavirus. Cartoon (4) employs the BAD script of the holocaust and negates it to refer to the hygiene protocol to be followed during the pandemic- GOOD. Finally, in cartoon (5) GOOD can be inferred from the leaders of different religious sects supporting vaccination and BAD from the anti-vaxxer/random clown.

Logical Mechanism

Cartoon	Logical Mechanism
1	analogy
2	consequence- contrast
3	analogy
4	false analogy
5	contrast – faulty reasoning

Table (3)- Logical mechanisms in English data

Regarding the logical mechanisms involved in resolving the opposition between the scripts, (false) analogy is the most frequent. It is employed in cartoon (1) where the vaccine is represented as a rescue boat, in cartoon (3) where the vaccine is portrayed as a sword used in a religious battle, and in cartoon (4) where getting vaccinated is described as "*Not the*

Holocaust". Clearly, the mechanism helps the cartoonists to make a positive portrayal of the vaccine and sugarcoat it.

The mechanism of contrast comes next. In cartoon (2), there is a contrast between the man refusing to get a needle stuck in his body and the same man in the following panel having a ventilator tube

stuck in his mouth. Likewise, in cartoon (5) there is a contrast between the anti-vaxxer and the leaders of the religious sects. In addition, the mechanism of consequence is employed in cartoon (2) to stress the negative effect of being unvaccinated, and that of faulty reasoning is used in cartoon (5) to highlight the foolishness and

ridiculousness of the anti-vaxxer. Thus, the logical mechanism employed in each cartoon also serves the same purpose of making a positive evaluation of the vaccine and a negative evaluation of antivaxxers and of being unvaccinated.

Target

Cartoon	Target
1	Not available
2	anti-vaxxers
3	Coronavirus
4	people who oppose the hygiene protocol of fighting Covid-19
5	anti-vaxxers

Table (4)- Targets in English data

As Table (4) shows, antivaxxers are the main target of humor. In cartoon (2), the antivaxxer is the target- refusing to get a vaccine needle stuck in his body, he catches covid-19 and has a ventilator tube stuck in his mouth instead. In cartoon (5), referring to the antivaxxer by the negative term "*some random clown*" and relating faulty reasoning to him in describing the vaccine as "*the mark of the beast*" make him the

target. In cartoon (3), coronavirus is the target by being defeated by the sword/vaccine shot. In cartoon (4), the target is implicitly the people who refuse to follow the hygiene protocol.

6.1.3. Logos

6.1.3.1.   Topoi

Topos	Cartoon	Frequency
usefulness & advantage	1-2-3-4	4
danger or threat	1-2- 4	3
definition & name interpretation	2-3-4	3
numbers	4-5	2
responsibility	2- 4	2
authority	5	1

Table (5)- Topoi in English data

Table (5) shows that Topoi are also utilized cleverly to serve the purpose of persuading the readers with the importance of getting the vaccine. First, the Topos of usefulness and advantage is the most predominant. It helps make a positive representation and evaluation of the vaccine. In contrast, the Topos of danger comes next to warn against the virus and against being unvaccinated. Similarly, the Topos of definition is employed skillfully to provide a positive definition of the

vaccine. The Topos of responsibility occurs in cartoon (2) where blame is laid on the antivaxxer for catching Covid-19, and in cartoon (4) where responsibility is laid on the public for bringing Covid cases down by getting vaccinated. The topo of authority is also employed in cartoon (5) where leaders of religious sects urge their followers to get the vaccine.

6.1.4. Visual Arguments

Visual means	Cartoon	No.
Visual metaphor	1- VACCINE IS A RESCUE BOAT 3- VACCINE IS A SWORD/ A DOCTOR IS A WARRIOR/ NHS BATTLE AGAINST CORONAVIRUS IS ARCHANGEL MICHAEL'S BATTLE 4- LESS IS DOWN	3
Visual demonstration	4- not the holocaust+ verbal items defined visually 5- the Pope/ the LDS prophet/ the Dalai Lama	2
Visual symbol	2- gloves/ syringe: vaccine 3- syringe/ red cross/ face masks: hygiene protocol	2
Visual archetype	3- biblical story	1

Table (6)- visual arguments in English data

In the end, visual arguments are also employed skillfully to serve the same purpose of persuading the readers with the importance of getting the vaccine. As illustrated in Table (6), visual metaphors are the most frequent (3 occurrences). Metaphors serve to make a positive evaluation of the vaccine. Visual demonstrations occur twice. In cartoon (4), the verbal element "*Not the Holocaust*" is demonstrated both visually and verbally. In cartoon (5), images of the Pope, the Dalai Lama, and the LDS prophet are used. Visual symbols also occur twice. In cartoons (2) and (3), the syringe symbolizes corona vaccine. Finally, cartoon (3) employs a visual archetype based on the Biblical story of saint Michael.

6.2. Arabic Data

6	7
Al-Rai (Jordan). 19 /11/ 2020.	Al- Jareeda (Kuwait). 11/11/2020.

8	9
Al-Youm Al-Sabe' (Egypt).12/12/ 2020.	Al- Ghad (Jordan).10/1/ 2021.

10
Al-Watan newspaper (Oman). 2/7/ 2021.

6.2.1. Ethos: Stance

As shown in Table (7), the creators of Arabic cartoons strongly believe in vaccination and in the power of the vaccine to save the world. On the other hand, there is a warning against being unvaccinated by stressing that the end is death.

Cartoon	Cartoonist's stance
6	Supports vaccination; believes the world is drowning without the vaccine
7	Believes in the power of the vaccine to hit the virus; shows sorrow and pity for the world
8	Believes in the power of the vaccine to kick the virus and eliminate it
9	Believes in the power of the vaccine to deter coronavirus attacks
10	Warns against the negative consequences of being unvaccinated - death

Table (7)- Ethos in Arabic data

6.2.2. Pathos

6.2.2.1. Emotive Abstraction

The word 'لقاح/ اللقاح' (vaccine) is used explicitly in cartoons (6), (7), (8) and (9). Although the word has neutral associations, it is rendered positive associations and connotations visually. This is achieved in cartoon (6) by placing a vaccine ampoule labelled 'اللقاح' on a boat, whereas the world 'العالم' is drowning. The positive representation of the vaccine is further sustained visually in cartoon (7) by portraying the vaccine shot as an arrow targeting coronavirus, in cartoon (8) as a gladiator kicking the virus, and in cartoon (9) as a sword used by a warrior/doctor to deter coronavirus attacks. In contrast, the noun phrase 'ضحايا *corona*' (corona victims) on the gravestones and the verbal

label ‚بانتظار من لم يأخذ اللقاح" (waiting for those who have not got the vaccine yet) wage a warning against being unvaccinated.

6.2.2.2.   GTVH

Script Opposition

Cartoon	Script Opposition
6	BEING UNVACCINATED / DROWNING IN THE SEA ------ VACCINE/ RESCUE BOAT
7	VACCINE/ ARCHERY
8	CORONAVIRUS VACCINE/ ROMAN GLADIATORS
9	CORONAVIRUS VACCINE/ BATTLE
10	LIFE/ DEATH---- BEING VACCINATED/ BEING UNVACCINATED

Table (8)- Script opposition in Arabic data

Table (8) demonstrates that cartoons (6-10) have CORONAVIRUS VACCINE as the topic domain/the main script. The auxiliary domain in cartoon (6) is a RESCUE BOAT in which a vaccine ampoule is placed. On the other hand, BEING UNVACCINATED is portrayed as DROWNING. The other script in cartoon (7) is ARCHERY; in cartoon (8) a ROMAN GLADIATOR; and in cartoon (9) a BATTLE. In cartoon (10), there is an opposition between BEING UNVACCINATED, which is associated with DEATH, and GETTING THE VACCINE, which is associated with LIFE. Thus, it can be deduced that the vaccine is associated with GOOD scripts, whereas being unvaccinated or the virus is associated with BAD scripts.

Logical Mechanism

Cartoon	Logical Mechanism
6	analogy
7	analogy
8	analogy- differential potency mapping (vaccine represented as a human- virus represented as an animate entity)
9	Analogy
10	consequence

Table (9)- Logical mechanisms in Arabic data

Regarding logical mechanisms underlying the Arabic cartoons, Table (9) shows that analogy is the most predominant- 4 times. It is employed to portray the vaccine in positive terms thereby reflecting a positive evaluation of it. In cartoon (6), it is a survivor in a rescue boat; in (7) an arrow targeting the virus; in (8) a gladiator; and in (9) a sword. Differential potency mapping underlies cartoon (8) where the vaccine is represented as a human being and the virus as an animate entity. Consequence is evident in cartoon (10) where death is the result of being unvaccinated.

Target

Cartoon	Target
6	Not available
7	Coronavirus
8	Coronavirus
9	Coronavirus
10	anti-vaxxers

Table (10)- Targets in Arabic data

The target of humor in the Arabic data is mainly coronavirus. In cartoon (7), it is a target about to be hit by an arrow/vaccine shot. In cartoon (8), it is an animate entity kicked by a gladiator/vaccine, and in cartoon (9), it is torn and deterred by a sword/vaccine. In cartoon (6), there is no target, and in (10), it is the unvaccinated.

6.2.3. Logos

6.2.3.1.   Topoi

Topos	Cartoon	Frequency
definition & name interpretation	7-8-9-10	4
usefulness & advantage	7-8-9-10	4
danger or threat	6-9-10	3
responsibility	10	1

Table (11)- Topoi in Arabic data

As shown in Table (11), there are four topoi underlying the Arabic cartoons. The most predominant is the Topos of definition - detected four times. It allows the cartoonist to provide a positive visual definition of the verbal element 'اللقاح' (the vaccine). It is defined as an arrow (cartoon 7), a gladiator (cartoon 8), and a sword (cartoon 9). On the other hand, it is also used to make a negative evaluation of the unvaccinated in cartoon 10, where the unvaccinated are defined visually as dead people. Accordingly, the Topos of usefulness and advantage is used in the four cartoons to make a positive representation of the vaccine by stressing its usefulness. The Topos of danger is evident in 3 cartoons; in cartoon (6), being unvaccinated is associated with drowning; in cartoon (9), danger is associated with coronavirus attacks; and in cartoon (10), being unvaccinated is the associated with death. The Topos of responsibility underlies cartoon (10) to lay the blame of being a corona victim and dying on the unvaccinated themselves.

6.2.4. Visual Arguments

Visual means	Cartoon	No.
Visual metaphor	*(6):* THE WORLD IS A DROWNING PERSON *(7):* A VACCINE SHOT IS AN ARROW --- CORONAVIRUS IS A TARGET---- THE WORLD IS AN EXHAUSTED HUMAN *(8):* COVID VACCINE IS A GLADIATOR---- WEAKNESS IS FALLING DOWN *(9):* A MASK IS AN ARMOR ---VACCINE IS A SWORD --- A DOCTOR IS A WARRIOR	3
Visual symbol	*(6)*: boat- safety, protection *(7):* Syringe- vaccination / Planet Earth: humanity *(8):* Ampoule- vaccine *(9)*: Syringe- vaccination / Broken arrows- defeat	4

Table (12)- Visual arguments in Arabic data

As illustrated in Table (12), Arabic data depend heavily on visual metaphors and visual symbols. Both visual means allow the cartoonist to simplify the medical verbal element, 'اللقاح' (the vaccine) by presenting it by simple visual elements that can be grasped easily by the readers.

7. Discussion

In both data sets, cartoonists hold the opinion that coronavirus vaccine is important and that being unvaccinated poses a great threat to humanity. This standpoint is reflected indirectly and implicitly in a way that engages the readers

both emotionally and logically. First, emotionally, both data sets employ words that make a positive representation and evaluation of the vaccine and a negative representation of anti-vaxxers. In English, the words '*rescue*' (1), '(Not the) *Holocaust*' (3), and '*high*' (5) provide a positive portrayal of the vaccine, while '*clown*' (5) provides a negative evaluation of anti-vaxxers. Similarly, in Arabic, the neutral verbal element 'لقاح' (vaccine) is rendered positive associations and evaluation by being defined in positive terms pertaining to positive domains, whereas 'ضحايا' (victims) is to warn against being unvaccinated.

Next, the readers are further engaged emotionally by means of the humor underlying each cartoon. Data analysis shows that the cartoons in both data sets are broadly based on the opposition between the scripts GOOD and BAD. The former helps portray the vaccine in positive terms reflecting a positive evaluation of it, and the latter helps stress the adversary coronavirus or the state of being unvaccinated. To illustrate, GOOD in the English data is exemplified by A RESCUE BOAT, SAINT MICHAEL'S BATTLE, NOT THE HOLOCAUST, and THE LEADERS OF RELIGIOUS SECTS, which are all associated with the vaccine. On the other hand, BAD is represented by DROWNING, THE DRAGON, and ANTIVAXXERS, which are all related to coronavirus or to being unvaccinated.

Similarly, the Arabic cartoons are also based on the opposition between the scripts GOOD and BAD. The Arabic cartoons utilize the domain of WAR more frequently than the English ones. The vaccine is represented as an arrow (7), a gladiator (8), and a sword (9)- all of which represent the vaccine in positive terms stressing its potency and efficiency in fighting and overcoming the virus. Like the English cartoons, being unvaccinated is represented as DROWNING (6) and is associated with DEATH (10).

In both data sets, antivaxxers and coronavirus are the main target of humor. In the English cartoons, antivaxxers are the target in cartoons (3), (4), and (5) and coronavirus in (3). Similarly, in the Arabic cartoons coronavirus is the target in cartoons (7), (8), and (9), and antivaxxers are ridiculed and threatened in (10). Thus, humor plays a major role in persuading the readers with the importance of the vaccine both by portraying the vaccine in positive terms and being unvaccinated in negative terms and by ridiculing antivaxxers and making them the target of humor.

Second, the topoi employed in the cartoons engage the readers logically, shaping their understanding of the vaccine. The Topos of usefulness is used frequently in both data sets to highlight the significance of the vaccine; the Topos of danger to stress the disadvantages of being unvaccinated; and the Topos of responsibility to lay blame on antivaxxers or the unvaccinated.

Finally, the means of visual arguments are also utilized skillfully to serve the purpose of persuasion. In both data sets, visual metaphors are ubiquitous. They help make a positive representation of the vaccine- by portraying it as a rescue boat (1), a sword (3 & 9), an arrow (7), and a gladiator (8). Visual symbols are also recurrent in both data sets. While gloves and masks symbolize hygiene protocol, a vaccine syringe/ampoule symbolizes the vaccine (2,3,7,8, & 9). English cartoons, however, also employ visual demonstrations (5) and a visual archetype (2).

8. Conclusion

In conclusion, pathos, logos and means of visual argument are all interwoven skillfully to reflect the cartoonist's stance (ethos) of supporting vaccination and urging the readers to get the vaccine. This is mainly realized by portraying the vaccine in positive terms highlighting its usefulness and advantage,

one the one hand, and portraying antivaxxers in negative terms attributing weak standpoints to them and stressing the threat and danger related to being unvaccinated.

The similarities between the two data sets are in accordance with the universal norm for people from different cultures to think alike, despite the linguistic or cultural differences between them. For example, there seems to be a human tendency when coding a message to focus on the advantages and usefulness of an object/concept to persuade the audience with it. On the other hand, people also tend to stress the uselessness or disadvantage of an object/concept and even highlight the threats or dangers associated with it to dissuade their audience from it.

Even though both data sets use visual elements related to the domain/ script of WAR, data analysis shows that there is a preference in the Arabic culture to use more visual elements related to WAR than the English culture. This finding can be proved or refuted by the analysis of a larger data set. Second, when coding a message, there seems to be a tendency in both cultures to play on the receivers' emotions to persuade them with their stance- especially those of fear and hope.

Given the limited data that have been examined, the study recommends that larger data sets be analyzed to confirm the findings discussed above. In addition, cartoons from languages other than English and Arabic can be used to explore the similarities and differences across different cultures as regards persuasion. Finally, cartoons can be analyzed from another humor approach, such as the superiority approach, which might help investigate the portrayal of antivaxxers in depth.

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