A proposal for the evaluation of multimodal argumentation

Assessing reasonableness and effectiveness in environmental campaign posters

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We argue that the evaluation of multimodal arguments needs to take into account the semiotic resources used to communicate them as well as the context in which they are produced and interpreted. Thus, in addition to the critical questions pertaining to the scheme that help assess the internal cogency of the argument and thereby its reasonableness, we propose asking questions regarding the cognitive and rhetorical dimensions of the argument in order to assess how effectively the semiotic design helps the addressee to process it and how effectively it is adjusted to the audience and context. To illustrate our proposal for a three-dimensional evaluation of multimodal argumentation, we analyze comparatively three environmental campaign posters that present in varying degrees of semiotic complexity the negative consequences of not taking action regarding the protection of the environment.

Keywords: argument from negative consequences, evaluation of multimodal argumentation, reasonableness, effectiveness, strategic maneuvering, environmental posters, semiotic design, semiotic complexity

1. Introduction

While studies regarding the analysis and reconstruction of multimodal argumentative discourse abound (see Tseronis and Forceville 2017; Rocci and Pollaroli 2018; Pflaeging and Stöckl 2021, among others), studies about the evaluation of multimodal argumentation are of recent date and relatively limited (Blair 2015; Dove 2016; Godden 2017; Groarke 2019, 2020). One issue that has been discussed

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under the labels of 'revisionism' vs. 'non-revisionism' (see Godden 2017) is whether multimodal arguments require their own evaluative procedures or not. In both cases, scholars have recourse to argument schemes and their accompanying critical questions either to show the need for new schemes and questions for assessing purely visual arguments, such as the 'argument from fit' or the 'matching argument' (Dove 2016; Groarke 2019), or to affirm their sufficiency for assessing multimodal arguments (Groarke 1996; Dove 2011; Blair 2015).

Answering the critical questions can at best tell the analyst something about whether the scheme has been applied correctly and whether its use can help to transfer the acceptability of the premises to the standpoint. But do these answers suffice for checking the quality of argumentation? The answer depends on the perspective that one adopts. While the scheme-based tradition of argument evaluation goes beyond the narrow sense of argument as logical inference and emphasizes the need to consider the broader context of the dialectical exchange, it does not exhaust the task of evaluation. Hernández (2023) goes as far as to argue that schemes and their accompanying questions should not be used for evaluating arguments. When dealing with such complex phenomena as multimodal arguments (Tseronis 2017), we propose a nuanced evaluation process that, in addition to the internal cogency of the argument, considers the complexity of the argument's design and its context, since the argument is never evaluated in a vacuum.

The question we therefore ask is: What role does the semiotic design play in the evaluation of multimodal arguments? To answer it, we focus on one specific topic, namely environmental risk communication, and one specific genre, namely posters produced by environmental organizations that make arguments from negative consequences. While there is an extensive body of studies on communication about climate change in a variety of media such as documentaries and films, illustrated books, commercials, and news coverage (see, for example, Hansen and Machin 2013), to our knowledge, few studies focus on posters by environmental groups, in particular (Doyle 2007 and Linder 2006 being notable exceptions), let alone on the evaluation of multimodal arguments that can be reconstructed from such posters. In this paper, we are interested in the argumentative message that is constructed by posters produced by environmental groups, which Stöckl and Molnar (2017) refer to as social advertising (see also Stöckl 2024). In this genre, the image-text relations do not simply construct meanings and representations of the environment but, even more specifically, construe arguments (reasons in support of a claim) which seek to raise awareness and call for action. Theoretical categories and analytical tools proposed within argumentation studies, and, more specifically, the perspective to multimodal argumentation (see Tseronis 2017, 2018), can help to reconstruct and evaluate these arguments.

We start by arguing for the need to consider effectiveness besides reasonableness when evaluating multimodal argumentation, so that due attention can be paid to the role of the semiotic resources used to communicate the argument and to the context of its production. We thus propose three general guiding questions for the evaluation of multimodal argumentation that concern the dialectical, cognitive, and rhetorical dimensions of the act of arguing. Before presenting an analysis that illustrates our proposal for a three-dimensional evaluation of multimodal argumentation, we briefly discuss the role of images in communication about environmental risks and explain how the argument scheme from negative consequences can provide a template for their reconstruction and evaluation. We analyze comparatively three posters that present the negative consequences of not taking action regarding the protection of the environment from plastic pollution, the use of pesticides and the human threat. Each poster displays a varying degree of semiotic complexity which is shown to play a role in how the multimodal argument can be evaluated.

2. Assessing reasonableness and effectiveness in multimodal argumentation

It is a truism among argumentation analysts that discourse cannot be adequately evaluated unless it has been interpreted and methodically reconstructed. Moreover, as van Eemeren (2013:50) notes, in order to avoid the risk of overinterpretation "sensitivity must be maintained to the details of the presentation, the general rules of communication, and the contextual constraints inherent in the speech event concerned". The above considerations are equally important when the discourse under analysis is multimodal, where meanings are construed by the interplay between the verbal and other non-verbal semiotic resources (Tseronis 2017). The attention to the details of the presentation should thus concern not only the verbal text but also what the image depicts as well as how. This is what we call the semiotic design of the argument, namely all the choices made regarding the verbal/visual content and the verbal/visual style. The design can be argumentatively complex in the sense that it consists of one or more levels of argumentation where a variety of argument schemes are used (see van Eemeren 2017). It may also be visually complex in the sense that its visual elements combine in ways that require more processing from the viewer.

The semiotic design of the argumentative discourse can be said to affect the evaluation process in at least two ways. First, in an indirect way, by guiding the interpretation of the discourse and the reconstruction of the arguments which will then be assessed for their cogency. From a logical perspective, one could then

expect that the evaluation should be based entirely on the reconstructed argument without having recourse to the original piece of discourse. In this view, the task of the evaluation would be to assess the internal cogency of the argument by checking the acceptability of the premises and the strength of the inference from premises to conclusion. But from a dialectical or rhetorical perspective, one needs to consider the design of the argument and the context in which it was put forward. Doing so would allow the analyst to acknowledge that "choice of pretty much any content, any formulation of content, any style of presentation, any arrangement or organization at any level of formatting or institutional structuring has potential consequences for decision-making", as Jacobs (2006:213) puts it. This is the second and more direct way in which the semiotic design can be said to affect the evaluation of argumentation.

While the design (verbal or visual) cannot be responsible on its own for the perpetration of a fallacy (except maybe for the cases of the so-called verbal fallacies), it plays a significant role in how an argument will be received, and thereby whether it will be deemed accepted (because it is reasonable, despite its unreasonableness, or even precisely because of its unreasonableness) or not. The visual or verbal content as well as the visual or verbal style invite the viewer to generate a series of propositions (see Tseronis 2018). Some of these may play a role in reconstructing the content of the premises of the argument, while others may guide the interpretation process, and can thus be said to become part of the context in which the argument is to be interpreted and assessed (see what Blair 2015: 225 says about the 'rhetorical stimulus' of visuals). That is the reason why effectiveness needs to be considered next to reasonableness especially when evaluating multimodal argumentation. While assessing the reasonableness requires the analyst to focus on the internal cogency of the argument, assessing the effectiveness requires one to pay attention to how the argument relates to the specific situation, audience, and genre. To answer these questions, the analyst will need to consider the design of the argumentative move and the context in which it was put forward.

An effective design of an argumentative move would thus allow the move to fulfill its purpose in the discussion, while being adjusted to the dialectical and societal requirements of the situation. There are at least two ways in which effectiveness can be understood and eventually assessed.[1] The first focuses on the receiver of the argument while the second focuses on the situation in which it is put forward. In the first case, one is interested in how the design may affect the

1. One may also understand effectiveness in an empirical way, as measuring whether the argument is indeed accepted or not by the audience, or in an aesthetic way, as assessing whether the design is pleasing or coherent. Such understandings of effectiveness, however, go beyond the scope of this paper.

way the addressee processes the argument, while in the second case, one is interested in how the design is adjusted to the expectations and requirements of the genre and broader socio-historical context in which the argument is put forward. The first understanding of effectiveness relates to what Oswald (2016), taking a cognitive pragmatic perspective, calls 'rhetorical effectiveness', defined as "any type of influence that the argument might have on the addressee and that is consistent with the speaker's persuasive intentions" (Oswald and Herman 2020:41). The second understanding of effectiveness relates to what Jacobs (2002, 2006) calls 'situational adjustment'. By that he means to emphasize that effectiveness can be dialectical, as in empowering the parties involved in making a reasonable decision, not necessarily linked to the interests of the one or the other party.

Oswald and Herman (2020) explain that two sets of information interact during the process of argumentative evaluation from the addressee's point of view, namely: (a) the content of the argumentation (that is, its premises and conclusion) and (b) the contextual information used to evaluate it, which they call 'critical context'. In the process of evaluation, the addressee determines whether the content of the argumentation and the critical context are compatible and, if they are not, which one prevails over the other.[2] If the content prevails, then the argument can be said to be effective. Conversely, if the critical context prevails, then the argument is not effective. Two cognitive parameters are responsible for the selection of information, namely epistemic strength and accessibility of information. From a cognitive perspective, effectiveness is likely to increase when, other things being equal, the content of the argumentation is *epistemically stronger* and *more accessible* than the critical context. In this view, the semiotic design can end up influencing the evaluation process by (a) *foregrounding* the content of the argumentation, that is, by making information that plays a role in the assessment epistemically stronger and more accessible, or by (b) *backgrounding* the critical context, that is, by making critical information that is important for the assessment epistemically weaker and less accessible.

Jacobs (2002, 2006) takes a normative pragmatic perspective that focuses not so much on the arguers and their individual goals or cognitive processes, but on the ways in which interaction in a specific argumentative context construes norms which the participants may appeal to or need to observe each time, if the activity in which they engage is to fulfill its purpose. From this perspective, effectiveness of an argument can be understood as the degree to which its design is "a fitting response to the circumstances of its occurrence" (Jacobs 2002:125), thereby not only adapted to the audience but also enhancing the conditions for deliberation.

2. A set of information (e.g., the content of the argumentation) is said to be stronger than another set (e.g., the critical context) when it is "more likely to be selected, processed, stored, etc." (Oswald and Herman 2020:46).

A nuanced evaluation of multimodal argumentation can therefore be guided by the following three general questions that address the internal cogency of the argumentation but also the semiotic complexity of the multimodal text and the context in which it is produced and interpreted:

1. Is the argument reasonable?
2. Does the verbal or visual design of the argument foreground or background the content of the argument or critical information?
3. Does the verbal or visual design adjust to the requirements and expectations of the specific activity in the specific context?

The three questions reflect three kinds of norms for evaluating (multimodal) argumentation (see Zenker et al. 2023 about the different kinds of norms) namely: (a) dialectical/logical norms for checking the internal cogency of the argument, (b) cognitive requirements for checking how the argument is processed from the addressee's perspective, and (c) rhetorical/situational norms for checking how the argument is adjusted to the audience and context. While question 1 is about reasonableness, questions 2 and 3 concern effectiveness and help us assess the ways in which the semiotic design and complexity of the multimodal argument can affect judgments regarding its reasonableness. By adding these two questions we emphasize that argument evaluation within a functional pragmatic perspective is always context dependent. The question about cognitive effectiveness helps us discuss how the design may affect the processing of information necessary for asking critical questions about the argument, while the question about situational effectiveness helps us discuss how the design may satisfy the normative requirements of the specific activity in the specific context.

3. Fear-inducing images communicating environmental risks

Contemporary environmental discourse, with its roots in the Cold War period of nuclear threat and its emergence through environmental movements of the 1970s, has for long been permeated with apocalyptic images and visions of global risk (Cassegård 2023; Hulme 2008). As a scientifically legitimized discourse that operates through the juxtaposition of unusually extended timescales, its distinctive concern with long-term consequences has precipitated the uncertainties that characterize environmental policy and action (Harré et al. 1999). Environmental discourse can thus be understood as a relation and tension between a precautionary action "before it's too late" and the factual but fragile premises of such a call to action, which involve complex causal relations, uncertainties, and scenarios built on human behavior.

Images play an important role in constructing that relation and dealing with this tension (Hansen 2010). First, what is relatively abstract, such as statistical data and future scenarios, can be translated and presented as concrete and familiar (Höijer 2010). Second, risks and dangers, relatively distant both in space and time, can be brought closer and rendered as requiring urgent action (Smith and Joffé 2009). A third and associated use of imagery in environmental advocacy concerns the appeal to values and emotions in what may otherwise appear as merely informative and technical discourse. An example of the latter use is the rhetoric of irreparability, often employed with recourse to several endangered species as well as polar ice (Üzelgün and Castro 2014).

A key assumption in the use of images in environmental campaigns is their capacity to circumvent the so-called rational or analytical processing system, and invoke holistic, intuitive, and affective processing (O'Neill 2020). Among the emotions addressed, fear, in particular, has been most exploited (Hulme 2008), due to its potential in elevating the saliency of environmental issues (McQueen 2021). While fearful representations may serve as an initial hook to capture attention, they also have several downsides, the primary being the diminishing of the viewer's sense of agency and response efficacy (O'Neill et al. 2013). The injunction that emerges from the literature on strategies of environmental communication concerns the need to balance fear and hope (Cassegård 2023; O'Neil et al. 2013). In sum, the extent to which a particular message could exploit the negativity of consequences (fear) and promote a sense of agency and direction (hope) depends primarily on the communicative activity and the rhetorical situation. Regarding campaign posters and environmental activism, this requires a detailed contextual treatment of their dramatic framing and fear appeals.

4. Multimodal arguments from negative consequences

While the literature on environmental risk communication takes 'fear appeals' (Reser and Bradley 2017) to be central to environmental communication, it is not entirely clear to which type of argument these would relate when studying them from an argumentation studies perspective. As mentioned above, identifying the argument scheme(s) is an important first step for the evaluation of argumentative discourse, albeit not a sufficient one. Even more importantly, in the case of multimodal argumentation, knowing which type of argument is employed can help explain the argumentative relevance of the various semiotic resources (see Degano 2017; Gonçalves-Segundo and Isola-Lanzoni 2021).

According to Walton (1996), the argument scheme that best describes the fear appeal messages studied by social sciences is the argument from consequences,

which is a subtype of a causal type of argument. Various formalizations of the argument from consequences, also known as pragmatic argumentation, have been proposed (see Walton 1996, 2000; Feteris 2002; Innocenti 2011; van Poppel 2012). What they all agree on is that it consists of a standpoint asking for a course of action to be taken (or not), based on a factual statement about the probability of certain effects and a normative statement about their (un)desirability.

Fear appeal messages can be related to the so-called negative variant of the argument from consequences, whereby the unacceptability of an act or decision is defended by referring to its negative consequences. The main difference between an argument from negative consequences and a fear appeal argument is that in the latter, the undesirable consequences concern directly and specifically the individual addressed by the argument. For the analysis presented in the next section, we make use of the following scheme, consisting of two coordinatively connected premises as proposed by van Poppel (2012):[3]

1.	Action X should not be carried out
1.1a	Action X leads to Y
1.1b	Y is a negative result
(1.1a–1.1b′)	(If action X leads to a negative result such as Y it should not be carried out)

While in theory it should be possible to find an instance of argumentative discourse that exactly matches the scheme presented above, in practice the evaluative and causal premise may appear condensed in one premise or expanded and further supported by other premises, thus creating a more complex structure (see van Eemeren 2017:25–26 about argumentative patterns). The causal premise, for example, can be further supported by causal, symptomatic, authority or analogy arguments, while the evaluative premise may be supported by a causal argument, and the linking premise may receive further support by premises stating the feasibility or not of the proposed action, the possible advantages or disadvantages, as well as alternative ways of reaching the same result. Finally, other premises may be added to give examples of what the problem exactly is or how severe the consequences will be.

Besides their argumentative complexity, messages that make use of an argument from negative consequences can also be semiotically complex regarding their verbal and visual components.[4] Such a verbal or visual complexity reflects

3. As van Poppel (2012:99) explains, separating the causal premise from the evaluative premise best describes how the argument from negative consequences differs from a causal argument.

4. Argumentation scholars, so far, have mainly had recourse to Kress and van Leeuwen's (2020) grammar of visual design in order to account for what we describe here as the semiotic

the way the message is designed to be adjusted to the audience and the constraints of the situation. The choices made in the design of a message can be studied within the strategic maneuvering approach (van Eemeren 2010; Tseronis 2017) as pertaining analytically to one of the following three aspects: topical potential, adaptation to audience, and presentational devices.

In the case of multimodal messages, such as environmental campaign posters, among the choices regarding the *topical potential* is to use an argument from negative consequences instead of some other type, as well as to have any of the premises extended by further arguments or not. When it comes to the visual mode, choices regarding topical potential concern what is depicted in the image that can be understood as illustrating the consequences of not taking action, and their severity or undesirability for the targeted audience. As far as the *adaptation to the audience* is concerned, the producers of the message can choose to emphasize the consequences for the individual recipient, a specific group, or the planet in general. Also related to the adaptation to the audience are choices that could make the audience feel the urgency to take action and recognize the efficacy of it. Finally, the choices regarding the *presentational devices* concern the ways in which language and visuals can be used to construe metaphors or other framing techniques in order to emphasize the severity or the susceptibility of the undesirable consequences and the urgency for taking action. Also related to the presentational devices is the choice of a gain- or loss-frame when presenting how the evaluative premise relates to the standpoint.

As we explained earlier, the semiotic design and context play a role in the assessment of the reasonableness and effectiveness of the argumentation. Ideally, the design of any move would seek to balance reasonableness and effectiveness. In the case of an argument from negative consequences, the design should be such that it minimally helps to understand what the consequence of (not) taking the proposed action will be and how negative it is. Moreover, the design should be such that it allows for questions concerning the suggested causal connection and the proposed action to be raised, as these may become relevant in the specific context. These questions may, among others, concern the urgency of taking action, the efficacy of the action proposed, the empowerment of the addressee or the alternative means for resolving the problem. The strategic maneuvering would derail when the goal of effectiveness takes the upper hand from reasonableness (van Eemeren 2013). In the case of multimodal argumentation, this may happen when the design (verbal and visual) obstructs the critical testing of the argument.

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design. See, for example, Degano (2017), Serafis et al. (2020), and Gonçalves-Segundo and Isola-Lanzoni (2021). The analysis of the three posters is broadly informed by the same model but does not apply its categories in any detail.

Following Oswald and Herman (2020), we would say that this can happen when the verbal or visual design of the argument poses constraints on the evaluation by foregrounding (making epistemically stronger and more accessible) or backgrounding (making epistemically weaker and less accessible) information that is required for assessing the argument. When assessing arguments that present negative consequences, for example, it may be the case that the design ends up presenting the negative consequences in such a way that the exaggeration about the result or its severity shifts the attention from asking questions regarding the likelihood of obtaining this result.

For a nuanced evaluation of multimodal arguments from negative consequences, one could use the three main questions that we introduced above, about the dialectical, cognitive, and rhetorical dimension of the argument. For the dialectical dimension, the questions asked would be the ones that pertain to the argument scheme identified in the discourse. Yu and Zenker (2020) have proposed three basic critical questions formulated in a way that can be applied to any type of argument, namely: (1) Are the data correct? (2) Is 'If D, then C' correct? and (3) Is the claim correct and are there other arguments against the claim? In a recent article, Hernández (2023) has shown that the specification of the critical questions for concrete instances of argumentation can be problematic because the questions proposed end up addressing other aspects of the argument beyond its form, and because the answers to these questions may be hard to find. Despite the problems (see also Blair 2001 and Pinto 2003, for similar criticisms), we still think that asking the critical questions can be a first step, albeit not a sufficient one, when evaluating argumentative discourse. We agree, however, with Hernández (2023) that the questions should allow for a scalar evaluation of the argument's strength rather than seek to be exhaustive. Expecting all the critical questions to be answered satisfactorily for the argument to be considered acceptable is a demand that overlooks the fact that arguments in practice are incomplete in the logical sense. It is by checking with the context that the analyst can decide which questions may be relevant to ask in a particular case, what would count as a satisfactory answer to them, or whether certain questions may be left unanswered.

Of the critical questions proposed for the argument from negative consequences in the literature, we therefore consider the following three to be most relevant:

1. Does the performance (or not) of action X indeed lead to Y? (concerning the causal premise)
2. Is result Y indeed so undesirable for the addressee? (concerning the evaluative premise)
3. Are there any other factors that must be present besides action X in order to create the mentioned undesirable result Y? (concerning the linking premise)

Moreover, since in actual practice arguments appear in more complex patterns than single argument schemes, questions concerning the distinct schemes involved in the discourse will also need to be asked. Finally, as we suggested above, the questions concerning the dialectical dimension will need to be complemented by questions about the cognitive and situational effectiveness of the argument.

5. Evaluating multimodal argumentation: Three cases

To illustrate our proposal for a three-dimensional evaluation of multimodal argumentation, we analyze three environmental campaign posters that present the negative consequences of not taking action regarding the protection of the environment. In all cases, a computer-generated image is combined with text characterized by a semiotic design of varying complexity. In the first one, the image provides all the information necessary to reconstruct the argument in support of the standpoint. In the second one, the use of a visual metaphor helps recover content that enriches the premises of the argument, while in the third one it is the combination of the image with the text and background knowledge that can help recover one of the crucial premises of the argument. In all three images, one or more airplanes are depicted, functioning as a 'condensing symbol' (see Hansen 2010:138–139) of the human impact on the environment. Airplanes can be seen as a hallmark of industrial civilization and arguably as representing human agency and ingenuity, and thereby as indirectly responsible for several environmental problems.

We first propose a reconstruction of the argumentation structure, paying attention to the verbal and visual content as well as to the verbal and visual style, and the image/text interplay guided by the generic template of the argument from negative consequences. We then comment on the semiotic design by referring to the three aspects of strategic maneuvering, and propose an evaluation of the argumentation guided by the three questions that we introduced above.[5]

5.1 The 'Trash' poster

The first example is a poster for Surfrider Foundation, an American NGO that takes action for the protection of the oceans and marine life (Figure 1). The computer-generated image shows an air tanker dumping water containing plastic

5. Degano (2017) and Gonçalves-Segundo and Isola-Lanzoni (2021) analyze posters paying attention to their visual design and using the argument scheme as a template for the reconstruction in a similar way as the one we propose here, but they do not propose a specific way in which these arguments can be evaluated.

waste on a wildfire. The text that appears next to the organization's logo at the top left corner reads "Help us keep the ocean clean". A gloss of the argument in the poster could be: We need to keep the ocean clean, otherwise air tankers will end up dumping plastic waste to extinguish fires.

Figure 1. Poster created by ad agency Young & Rubicam, Paris, France in May, 2009.[6]

The standpoint can be reconstructed directly from the verbal text. The premises that support it, however, can only be reconstructed from what the image depicts. We thus propose the following reconstruction:[7]

1.	We need to keep the ocean clean **from plastic**.
1.1a	**Plastic pollution in the ocean risks being so much that air tankers will end up dumping plastic on wildfires.**
1.1b	**This is an absurd and worrying development.**
(1.1a–1.1b′)	(We should avoid absurd and worrying consequences such as air tankers dumping plastic on wildfires).

6. Image available online at https://www.adsoftheworld.com/campaigns/trash-06377faf-1543-4470-9307-1cfac6871141a, last accessed: 6.6.2024.

7. For the presentation of the argumentation structure, we follow the pragma-dialectical notational system, according to which 1. presents the standpoint, 1.1 the main argument in support of it, 1.1' the linking premise, 1.1.1 the subordinate argument, and 1.1a and 1.1b coordinatively linked arguments. Premises appearing inside parenthesis are unexpressed. In addition, we use bold to indicate the (part of the) proposition reconstructed entirely from the image, and bold and italics when the content is recovered from both the image and the text.

Regarding the topical potential, the poster provides a very concrete example of the negative consequences that water polluted with plastic can have, which also concerns a topic closely related to climate change, namely wildfires. As far as the adaptation to the audience is concerned, the image-makers invite the audience to laugh bitterly at the paradoxical sight of an air tanker that risks feeding the fire instead of extinguishing it. The composition of the image (a side view of the air tanker dumping plastic waste) puts the viewer in the position of an observer of this paradoxical situation. The choice regarding the presentational devices was to use the visual paradox of an air tanker dumping plastic waste instead of water, which eventually asks the audience to reflect on the cycle of water and the consequences of polluting it in a way that differs from what other environmental posters about plastic in the ocean usually show.

This is a clear case of an argument from negative consequences where the content of both the causal and the evaluative premise is to be reconstructed from what the image depicts and how it does that. To assess the argument's reasonableness, we ask the critical questions pertaining to the argument scheme. While the causal link between the lack of action about keeping the oceans clean and the accumulation of plastic in the ocean is straightforward, the plausibility of its accumulation in the oceans being so high that even air tankers will end up collecting garbage instead of water requires further support. Moreover, the severity of the problem is conveyed by a visual paradox which emphasizes the quantity of plastic garbage being dumped but leaves the viewer to imagine how it ended up in the air tanker and how it impacts the extinguishing of wildfires. When assessing the argument's cognitive effectiveness, we may ask whether presenting the argument from negative consequences almost entirely through the visual paradox risks diverting the viewer's attention from asking about how the severity of the problem is justified. While, for the time being, the likelihood of the depicted situation is rather low, the photorealistic image enhances the plausibility of the scenario in the viewer's mind. This said, the image as a whole ends up attracting the viewers' attention and inviting them to think about the interconnection between plastic waste in the oceans and wildfires. As such, the argument can be said to be rhetorically effective in that the choice of this concrete, albeit exaggerated, example and its visualization help to drive home the negative consequences of plastic pollution.

5.2 The 'Air strike' poster

The second example is a poster for the Brazilian NGO BeeOrNotToBee?, which works to raise awareness about the importance of bees for food production and sustainability (Figure 2). The computer-generated image shows a field sprayed by a fleet of crop dusters flying at different heights, all of them directed towards the

viewer. In the background, a cloud resembling a nuclear mushroom is visible. The text at the bottom of the poster reads "The death of bees is a silent war" in all caps, followed by "The decline of pollinators will cause devastating impacts on the environment and on food production. Get informed. Protect them. nobeenofood .com", and the logo of the organization. A gloss of the argument could be: We should take action against pesticides because they cause the death of pollinators and that will lead to devastating impacts for humans too.

Figure 2. Poster created by ad agency 6P propaganda & marketing, Ribeirão Preto, Brazil in April 2015.[8]

The combination of the inciting clause "Protect them" with what is depicted in the image and stated in the rest of the text allows us to reconstruct the standpoint. The presence of the iconic mushroom cloud in the background and the number of crop dusters flying over the field as well as their arrangement suggest an image from a battlefield rather than agricultural activity. The image thus illustrates not only that pesticides are an attack on bees but also that they constitute a "silent war" on humans, as the text puts it. Based on the information that can be

8. Image available online at https://www.adsoftheworld.com/campaigns/firing-squad, last accessed: 6.6.2024.

extracted from the verbal text and the image, we reconstruct the argumentation structure as follows:

1.	Protect the pollinators (bees) **from pesticides**.
1.1	The death of bees is a silent ***war***.
(1.1′)	(We should avoid the silent war caused by pesticides).
1.1′.1a	The decline of pollinators will have impacts on the environment and on food production.
1.1′.1b	These impacts are devastating, **matching the impact of an atomic bomb**.
(1.1′.1a–1.1′.1b′)	(If the decline of pollinators leads to devastating consequences on the environment and on food production matching the impact of an atomic bomb, then we should avoid it).

The argument in this case is more complex compared to the first example. Here the argument from negative consequences (1.1.a and 1.1b) supports the linking premise (1.1') of an argument from values (1.1) that directly supports the standpoint. The image-makers chose from the topical potential a combination of schemes and the theme of war in order to support their standpoint against the use of pesticides. As a presentational device, the choice of the war metaphor in both the text and the image reinforces the theme by providing a specification of what the war mentioned in the text is, namely a nuclear one, symbolized by the mushroom cloud. When it comes to the adaptation to audience demand, they chose to appeal to the viewers' negative associations regarding war without however showing its outcomes (i.e., the dead bees or what the devastating impacts on food production look like). Interestingly, the choice to have the crop dusters directed towards the viewers can be understood as a means of engaging them as the war victims, being directly poisoned by the pesticides or indirectly affected by the problems caused in food production.

Regarding the assessment of the argument's reasonableness, one can scrutinize the causal link between the use of pesticides and the death of bees, on the one hand, and the causal link between their death and the impacts on the environment and on food production, on the other. The formulation of the value premise 1.1 takes it for granted that the use of pesticides leads to the death of bees, something which can hardly be doubted. Similarly, one can hardly doubt the causal link expressed in premise 1.1'.1a about the impact of the decline of pollinators on the environment and on food production. It is the undesirability of the negative consequences conveyed by the verbal and visual framing of the use of pesticides as war and in particular by the association of the result of the decline of the bee population with the consequences of an atomic war that raises questions. Concerning the cognitive effectiveness of the argument, one may then ask whether the

use of the war metaphor, and in particular the association with a nuclear catastrophe, ends up drawing the viewer's attention away from the fact that other factors than pesticides need to be present for the total catastrophe that the image suggests. From a rhetorical perspective, however, considering the specific genre and its purpose, we may say that the war metaphor seeks to capture the audience's attention and to add a moral ground for readily agreeing why one should protect the bees and thereby humanity's food production.

5.3 The 'Tsunami' poster

The third example is a poster created for WWF (Figure 3). Following the reactions caused by its circulation in the media, both WWF and the Brazilian advertising agency withdrew their approval of it and issued statements apologizing for its creation. The image is a computer-manipulated aerial photo of Lower Manhattan with the Twin Towers standing out and three dozen airplanes directed towards them from all directions. The text accompanying the image at the top right corner reads "The tsunami killed 100 times more people than 9/11" in all capital letters and bold, followed by three other sentences "The planet is brutally powerful. Respect it. Preserve it. www.wwf.org", in lowercase.

Figure 3. Poster created by DDB Brazil in May, 2009.[9]

9. Image available online at https://www.adsoftheworld.com/campaigns/tsunami-acddd733-6e6d-48d4-9502-6d89579a48d0, last accessed: 6.6.2024.

A gloss of the argument could be: If we do not respect and preserve the planet, we risk experiencing its brutality that can be equal to 100 times 9/11. The text guides us to reconstruct the standpoint "Respect and preserve the planet" supported by the main premise "The planet is brutally powerful". The image in dark blue and gray tones graphically illustrates the brutality mentioned in the text, by showing how much greater the airplane attack on New York City would have been if its victims were as many as those who died in the 2004 tsunami. While the text makes an almost accurate comparison between the death toll of the 2004 tsunami and the 9/11 attacks, the image is a fictitious depiction of numerous airplanes attacking New York City, suggesting a hypothetical comparison with the two airplanes that actually attacked the Twin Towers. Based on the information that can be extracted from the verbal text and the image as well as background knowledge, we reconstruct the argumentation structure as follows:

1.	Respect and preserve the planet.
1.1	The planet is ***brutally powerful***.
(1.1′)	(We should respect and preserve a brutally powerful planet that we inhabit).
1.1.1	The planet can cause natural disasters **akin to a worse version of 9/11.**
(1.1.1′)	(A force that can cause natural disasters akin to a worse version of 9/11 is brutally powerful).
1.1.1.1	The (2004) tsunami killed 100 times more people than 9/11.
(1.1.1.1′)	(The brutality of the 2004 tsunami is comparable to the brutality of the 9/11 terrorist attacks).
(1.2a)	(Not respecting and preserving the planet may lead to natural disasters such as tsunamis).
(1.2b)	(Natural disasters are brutal).
(1.2a–1.2b′)	(If not respecting and preserving the planet leads to natural disasters that are brutal, then we should respect and preserve it).

As the reconstruction illustrates, this is an even more complex argument than the previous one. Here, the argument from negative consequences is conveyed implicitly as one of the two independent supports for the inciting standpoint, the other being a series of subordinative arguments that rest on an analogy argument. While the text and image of the poster appear at first to support the claim that the planet is brutally powerful, when one interprets this information against the knowledge about the genre of environmental campaign posters, one understands that an implicit argument about the brutal consequences that the planet can cause is also conveyed. This complex structure consisting of an implicit argument and several layers of subordinate argumentation is a choice regarding the topical

potential. Instead of presenting the consequences of human inaction on the environment, the image-makers chose to depict how threatening a disrespected planet can be. Visually, the image-makers focused on the consequences that human inaction about the environment will have directly on humans themselves, comparing it to the results of a terrorist attack. Regarding the adaptation to the audience, they chose to exploit the emotions associated with the 9/11 terrorist attacks. Moreover, from the perspective taken in the photo, the audience is invited to assume both the position of the victims (as passengers of the planes and as people on the ground) and the position of the terrorists directing the planes to their target. When it comes to the presentational devices, the choice to personify the planet in the text and to visually enhance the threat of the fictitious terrorist attack draws the viewer's attention because of the unexpected way in which the need for the protection of the environment is discussed.

When assessing the argument's reasonableness, several questions pertaining to the different argument schemes employed can be asked. Suffice it to say that the argumentation is problematic on at least two accounts. First it relies on a false analogy between acts of nature and acts of terrorism. This is suggested by the comparison made in the verbal text between a natural catastrophe such as the 2004 tsunami and the terrorist attacks of 9/11 as well as the comparison between the fictitious scenario that the image depicts and what we know happened on 9/11. While the comparison between the death toll of the tsunami and the terrorist attack is based on the counting of the victims, the extrapolation about the brutality of these two events is problematic since one is a natural catastrophe and the other a planned act of terrorism. Secondly, by personifying nature, it wrongly suggests that there is a direct causal link between humans disrespecting it and nature's ability to cause catastrophes in reply. Exaggerating nature's brutality and comparing it to the 9/11 terrorist attacks make the argument an ad baculum fallacy and a fear appeal at the same time. From a cognitive perspective, one may say that the content of the image and its style foreground the psychological and emotional impact of the terrorist scenario rather than the factual, quantitative comparison about the death toll. In doing this, the image risks preventing the audience from asking the critical questions about the suggested analogy between these two events and the relevance that emotions about an act of terror should have for steering action regarding environmental protection. From a rhetorical perspective, associating the tsunami with 9/11 risks many controversial interpretations that involve a spillover of emotions linked to the terrorist attack. In this way, the poster is both rhetorically ineffective and manipulative, not least because it disempowers the viewer from being an agent of change.

6. Discussion

In this section, we compare the three examples in order to explain how paying attention to the semiotic design and its complexity can help to assess the reasonableness and effectiveness of multimodal argumentation. The three examples present varying degrees of visual and argumentative complexity, with the first one being the least and the last one the most complex. In the 'Trash' poster (Figure 1), a single argument from negative consequences is reconstructed mainly from what the image depicts and how it does it. The exaggerated scenario depicted in the image illustrates the consequences of the accumulation of plastic waste in the oceans, and thereby helps to reconstruct the two premises of the argument. The visual paradox of an air tanker dumping plastic instead of water on a wildfire puts the focus on the undesirability of the consequence of not taking action. The exaggeration and the concreteness of the undesired consequence may risk obstructing the viewer from asking critical questions about the suggested causal connection, but they constitute appropriate choices given the requirements of the genre and the situation.

The 'Air strike' poster (Figure 2) is characterized by a more complex design both visually and argumentatively. The linking premise of a value argument made on the first level is further supported by an argument from negative consequences. The image provides crucial information for the reconstruction of both. Neither pesticides as the main cause of the threat nor the suggested severity of the consequences could have been conveyed without the image. At the same time, the visual metaphor of crop dusters spraying pesticides as warplanes dropping what appears to be a nuclear bomb helps to suggest the severity of the negative consequences, without actually showing the concrete impacts on the environment or the humans. While the war metaphor and the comparison with a nuclear catastrophe may risk obstructing the viewer from asking the relevant critical questions, the concretization of the human-industrial cause of the threat helps to augment the potency of the call to action.

The 'Tsunami' poster (Figure 3) has the most complex design both visually and argumentatively. While at first sight it appears to be an iconic photo of the 9/11 terrorist attack on New York City, the presence of three dozen airplanes and the perspective of the manipulated photo, together with the accompanying text require a more complex inferential process to reconstruct a coherent argument for why we need to protect the planet. As a result, the main standpoint is supported by an explicit argument from value further supported by two levels of subordinate argumentation resting on an analogy argument, and an implicit argument from negative consequences. While the text states the factual comparison between the death toll of the 2004 tsunami and the victims of 9/11, the image depicts what a

worse version of 9/11 could look like. Taken together they thematize on the brutality of the planet. Given that the main standpoint asks the viewers to protect and preserve the planet, the value premise about the planet's brutality can only make sense if one assumes that the poster invites the viewers to imagine the severity of the consequences of not respecting a brutally powerful planet. The photographic realism of the image, however, suggests a very concrete comparison with an actual event and thereby risks diverting the viewers' attention to the emotional assessment of the terrorist attacks rather than to the critical testing of the reasoning regarding the preservation of the planet. If the comparison were stated explicitly in the text, it would have been immediately dismissed as irrelevant.

Based on the discussion of the three examples, we can say that the visual content and style of an image can play a role in the reconstruction process in any of the following ways. The visual content may help to enrich or specify the content of the standpoint or of the premises. The visual content or style may also trigger inferences that add an entire premise or crucial information that completes a premise reconstructed from the verbal text. When reconstructing argumentation from negative consequences in particular, the visual content and style may help to concretize the undesired consequences or illustrate the causes of the problem as well as emphasize the seriousness of the negative consequences. At the same time, the image may suggest a certain narrative that invites the viewers to think of who is to blame, who is affected and what can be done, providing them a perspective from where they can assess the role that they can play in the action promoted by the ad.

When it comes to the evaluation of multimodal arguments from negative consequences, the image's immediacy and illusion of realism (even when computer-generated) may be exploited in order to misrepresent the time frame between the action and the consequence, ending up confusing the viewer about the plausibility of the depicted result and the severity that it depicts. Moreover, it may end up drawing the viewers' attention to certain aspects of the problem, such as the emotional or value hierarchies necessary for understanding the message or for acting upon it, thereby obstructing them from critically examining the argument's premises and inference link. In cognitive terms, it can be said that the image may steer the viewers to select information from their cognitive environment that backgrounds critical information necessary for the assessment of the argument. In rhetorical terms, it can be said that the image risks being too concrete or too emotional that it ends up misrepresenting the actual problem or exaggerating the seriousness of it, thereby obstructing the deliberation about the options for action or the viewer's sense of agency and response efficacy.

The above discussion should by no means suggest that the complexity of the semiotic design of a multimodal argument necessarily decreases its reasonable-

ness. As was noted above, complexity is the result of choices made to adapt a specific argument to a specific audience in a specific genre and context. While in some cases the complexity of the design may increase its effectiveness to the detriment of its reasonableness, in other cases complexity may be necessary for establishing its reasonableness. More empirical qualitative analysis is needed here.

7. Conclusion

The question that we have set out to answer was: What role does the semiotic design play in the evaluation of multimodal arguments?

One way to answer it is simply by checking whether the semiotic design makes it easier or harder to answer the critical questions that pertain to the scheme(s) underlying the reconstructed argument. Theoretically, five possibilities can be distinguished: (a) the design effectively communicates a constructive argument, (b) it exposes the fallacy, (c) it distracts from the detection of the fallacy, (d) it is not an effective way for communicating the constructive argument, or (e) it does not affect in any way the critical testing. These, however, would be misleading answers to the question since they assume that the visual is by definition the mode that risks obstructing the asking of the critical questions. Moreover, this way of answering the question assumes that a fallacy can be identified exclusively at the level of reasoning and has nothing to do with the way the argument is communicated or the context in which it is put forward.

Another way to answer the question is to formulate critical questions that specifically concern the semiotic properties of the way the argument is communicated (see Dove 2016 and Groarke 2020, Groarke and Kišiček 2024). In a similar vein with identifying linguistic fallacies (see Hinton 2020), one could thus identify fallacies that breach visual / semiotic norms. While this perspective acknowledges the need to address the semiotic properties of arguments such as the argument from visual analogy or the argument from matching, it relies entirely on the concept of argument schemes and their accompanying questions as tools for evaluation. It thereby assumes that adding more critical questions or adjusting the list of the existing ones will suffice for the evaluation, overlooking the context-dependency of multimodal argumentation.

What we propose instead is to acknowledge that arguments are situated in communicative practices and communicated through a variety of semiotic resources, both when analyzing and evaluating them. The nuanced evaluation process that we proposed considers the semiotic complexity of the design as well as the situation (audience and genre), in addition to the internal cogency, since the argument is never evaluated in a vacuum. Next to the dialectical norm

of reasonableness, we argued that two understandings of effectiveness need to be considered, namely cognitive and situational. The semiotic properties of the design of the argument will then need to be considered when answering the questions regarding all three dimensions. In this view, the semiotic design is not assumed by default to obstruct the critical testing of the argument since its role is accounted for, both in the reconstruction and the evaluation of the argument. The goal of the evaluation is to assess the quality of the argument both dialectically and rhetorically by paying attention to the choices made in the semiotic resources (verbal, visual, or other), the content of what is argued, as well as the context (dialectical or social) in which the argument is put forward. For that purpose, one does not only ask whether the argument is reasonable but also whether its design is effective.

The three examples discussed above cannot exhaust the multitude of semiotic designs and the ways in which these may affect the evaluation process of multimodal argumentation. They were meant as an illustration of the complex ways in which reconstruction and evaluation of multimodal arguments interrelate, and of how paying attention to the semiotic design and asking relevant questions can pave the way for a more encompassing process of evaluation. Focusing on a type of argument, namely the argument from negative consequences, as well as on a specific genre, namely environmental posters, has helped us to make some indicative comparisons. It was beyond the scope of this paper to propose a fully developed method of argument evaluation. It would have been hard, if not impossible, to propose more concrete guidelines beyond the three broad questions about the dialectical, cognitive, and rhetorical dimensions, since, as we argue, evaluation of multimodal argumentation needs to take the semiotic complexity and situatedness of argumentation into account. Qualitative studies of other types of arguments in similar or other genres and communicative practices can provide valuable observations and comparisons on which some general guidelines for the evaluation may be proposed. Moreover, the identification of semiotic properties that cue specific argument types can help to search for patterns in corpora and move beyond the analysis of specific cases, or to carry out experiments regarding the persuasiveness of selected semiotic designs.

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References

Blair, J.A. 2001. "Walton's Argumentation Schemes for Presumptive Reasoning: A Critique and Development." *Argumentation* 15:365–379.

Blair, J.A. 2015. "Probative Norms for Multimodal Visual Arguments." *Argumentation* 29:217–233.

Cassegård, C. 2023. "Activism Without Hope? Four Varieties of Postapocalyptic Environmentalism." *Environmental Politics*.

Degano, C. 2017. "Visual Arguments in Activists' Campaigns." In *Argumentation across Communities of Practice: Multi-Disciplinary Perspectives*, ed. by C. Ilie, and G. Garzone, 291–315. Amsterdam: John Benjamins.

Dove, I. 2011. "Visual Analogies and Arguments." In *Argumentation: Cognition and Community: Proceedings of the 9th international conference of the Ontario Society for the Study of Argumentation*, ed. by F. Zenker, 1–16. Windsor, ON.

Dove, I. 2016. "Visual Scheming: Assessing Visual Arguments." *Argumentation and Advocacy* 52 (4):254–264.

Doyle, J. 2007. "Picturing the Clima(c)tic: Greenpeace and the Representational Politics of Climate Change Communication." *Science as Culture* 16 (2):129–150.

Feteris, E.T. 2002. "A Pragma-Dialectical Approach of the Analysis and Evaluation of Pragmatic Argumentation in a Legal Context." *Argumentation* 16:349–367.

Godden, D. 2017. "On the Norms of Visual Argument: A Case for Normative Non-Revisionism." *Argumentation* 31 (2):395–431.

Gonçalves-Segundo, P.R., and G. Isola-Lanzoni. 2021. "Multimodal Practical Argumentation and Behavioral Change: An Analysis of the "Remember, the Metro is for everyone" Campaign." *Revista da ABRALIN* 20(3): 779–807.

Groarke, L. 1996. "Logic, art and argument." *Informal Logic* 18 (2–3): 105–129.

Groarke, L. 2019. "Matching Schemes of Argument: Verbal, Visual, Multimodal." In *Proceedings of the ninth conference of the International Society for the Study of Argumentation*, ed. by B. Garssen et al., 443–457. Amsterdam: SicSat.

Groarke, L. 2020. "Visual Argument Schemes in the PTA." In *Proceedings of the 3rd European Conference on Argumentation, Volume I*, ed. by C. Dutilh Novaes et al., 561–577. London: College Publications.

Groarke, L., and G. Kišiček. 2024. "Auditory arguments, advertising, and argumentation theory: Hitting sour notes or ringing true?" *Journal of Argumentation in Context* 13 (2): 177–202.

Hansen, A. 2010. *Environment, Media and Communication*. London: Routledge.

Hansen, A., and D. Machin. 2013. "Researching Visual Environmental Communication." *Environmental Communication: A Journal of Nature and Culture* 7 (2):151–168.

Harré, R., J. Brockmeier, and P. Mühlhäuser. 1999. *Greenspeak: A Study of Environmental Discourse*. Thousand Oaks: Sage.

Hernández, A. 2023. "Disentangling Critical Questions from Argument Schemes." *Argumentation* 37:377–395.

Hinton, M. 2020. *Evaluating the Language of Argument*. Dordrecht: Springer.

Höijer, B. 2010. "Emotional Anchoring and Objectification in the Media Reporting on Climate Change." *Public Understanding of Science* 19 (6):717–731.

Hulme, M. 2008. "The Conquering of Climate: Discourses of Fear and Their Dissolution." *Geographical Journal* 174 (1):5–16.

Innocenti, B. 2011. "A Normative Pragmatic Model of Making Fear Appeals." *Philosophy & Rhetoric* 44 (3):273–290.

Kress, G., and T. van Leeuwen. 2020. *Reading Images. The Grammar of Visual Design*. 3rd edition. London: Routledge.

Jacobs, S. 2002. "Messages, Functional Contexts, and Categories of Fallacy: Some Dialectical and Rhetorical Considerations." In *Dialectic and Rhetoric: The Warp and Woof of Argumentation Analysis*, ed. by F. H. van Eemeren, and P. Houtlosser, 119–130. Dordrecht: Springer.

Jacobs, S. 2006. "Nonfallacious Rhetorical Strategies: Lyndon Johnson's Daisy Ad." *Argumentation* 20:421–442.

Linder, S. H. 2006. "Cashing-in on Risk Claims: On the For-Profit Inversion of Signifiers for 'Global Warming'." *Social Semiotics* 16 (1):103–132.

McQueen, A. 2021. "The Wages of Fear?" In *Philosophy and Climate Change*, ed. by M. Budolfson, T. McPherson, and D. Plunkett, 152–177. Oxford: Oxford University Press.

O'Neill, S. 2020. "More than Meets the Eye: A Longitudinal Analysis of Climate Change Imagery in the Print Media." *Climatic Change* 163 (1):9–26.

O'Neill, S., M. Boykoff, S. Day, and S. Niemeyer. 2013. "On the Use of Imagery for Climate Change Engagement." *Global Environmental Change* 23:413–421.

Oswald, S. 2016. "Rhetoric and Cognition." In *Relevance Theory: Recent Developments, Current Challenges and Future Directions*, ed. by M. Padilla Cruz, 261–285. Amsterdam: John Benjamins.

Oswald, S., and T. Herman. 2020. "Give the Standard Treatment of Fallacies a Chance! Cognitive and Rhetorical Insights into Fallacy Processing." In *From Argument Schemes to Argumentative Relations in the Wild*, ed. by F. H. van Eemeren, and B. Garssen, 41–62. Cham: Springer.

Pflaeging, J., and H. Stöckl (eds). 2021. "The Rhetoric of Multimodal Communication: Special Issue." *Visual Communication* 20 (3).

Pinto, R. C. 2003. "Commentary on C. Reed and D. Walton's 'Argumentation Schemes in Argument-as-Process and Argument-as-Product'." In *Informal logic @25: Proceedings of the Windsor conference*, ed. by A. J. Blair et al., 1–13. Ontario: OSSA.

Reser, J. P., and G. L. Bradley. 2017. "Fear Appeals in Climate Change Communication." In *Oxford Research Encyclopedia of Climate Science*, ed. by Hans von Storch.

Rocci, A., and C. Pollaroli. 2018. "Introduction: Multimodality in Argumentation." *Semiotica* 2018 (220):1–17.

Serafis, A., S. Greco, C. Pollaroli, and C. Jermini-Martinez Soria. 2020. "Towards an Integrated Argumentative Approach to Multimodal Critical Discourse Analysis: Evidence from the Portrayal of Refugees and Immigrants in Greek Newspapers." *Critical Discourse Studies* 17(5):545–565.

Smith, N., and H. Joffe. 2009. "Climate Change in the British Press: The Role of the Visual." *Journal of Risk Research* 12:647–663.

Stöckl, H. 2024. "Detecting generic patterns in multimodal argumentation: A corpus-based study of environmental protection print-ads." *Journal of Argumentation in Context* 13 (2): 260–291.

Stöckl, H., and S. Molnar. 2017. "Eco-Advertising: The Linguistics and Semiotics of Green(-Washed) Persuasion." In *The Routledge Handbook of Ecolinguistics*, ed. by A. F. Fill, and H. Penz, 261–276. London: Routledge.

Tseronis, A. 2017. "Analysing Multimodal Argumentation within the Pragma-Dialectical Framework." In *Contextualizing Pragma-Dialectics*, ed. by F. H. van Eemeren, and Wu Peng, 335–359. Amsterdam: John Benjamins.

Tseronis, A. 2018. "Determining the Commitments of Image-Makers in Arguments with Multimodal Allusions in the Front Covers of The Economist: Insights from Relevance Theory." *International Review of Pragmatics* 10(2):243–269.

Tseronis, A., and C. Forceville (eds). 2017. *Multimodal Argumentation and Rhetoric in Media Genres*. Amsterdam: Benjamins.

Üzelgün, M. A., and P. Castro. 2014. "The Voice of Science on Climate Change in the Mainstream Turkish Press." *Environmental Communication* 8(3):326–344.

Van Eemeren, F. H. 2010. *Strategic Maneuvering: Extending the Pragma-Dialectical Theory of Argumentation*. Amsterdam: John Benjamins.

Van Eemeren, F. H. 2013. "Fallacies as Derailments of Argumentative Discourse: Acceptance Based on Understanding and Critical Assessment." *Journal of Pragmatics* 59:141–152.

Van Eemeren, F. H. (ed). 2017. *Prototypical Argumentative Patterns*. Amsterdam: John Benjamins.

Van Poppel, L. 2012. "The Strategic Function of Variants of Pragmatic Argumentation in Health Brochures." *Journal of Argumentation in Context* 1(1):97–112.

Walton, D. 1996. "Practical Reasoning and the Structure of Fear Appeal Arguments." *Philosophy and Rhetoric* 29(4):301–313.

Walton, D. 2000. *Scare Tactics: Arguments that Appeal to Fear and Threats*. Dordrecht: Springer.

Yu, S., and F. Zenker. 2020. "Schemes, Critical Questions, and Complete Argument Evaluation." *Argumentation* 34(4):469–498.

Zenker, F., et al. 2023. "Norms of Public Argumentation and the Ideals of Correctness and Participation." *Argumentation*.

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