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Visual Design as Complement for Photography in Conservationist Digital Communication in South America.

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Introduction

An important number of environmental groups utilize photographs as their main tool of public communication. The photographed image has the capability to show directly to the observer what these organizations try to protect. Patagonian forests, penguins hunting fish, or the wildlife of a jaguar family are distant realities for common people. For this reason, photography is widely used to bring closer those realities to sensitize and inform society about natural issues, promote collective action and gather public support (Hansen, 2010). Nevertheless, it is possible to evidence that the photographs are not enough to achieve those objectives, they need other elements to control their meanings. The most obvious supporter is the written texts, but there are other kind of sign, which are neither photographs nor words, that play a key role in the meaning-making process. Visual elements of different nature, such as lines, colour planes, arrows, or icons, help to guide the understanding of images in the communication process, specifying, completing, hierarchizing, and contextualizing the information within the image.

In turn, environmental groups have known to reap the benefits developed by the digital media to increment the reach, accelerate the production time, and reduce the costs of their visual communication (Garret, 2006), making them their main divulgation channel. In addition, despite the written communication is highly considered by digital platforms, many of them encourage the use of visual elements as fundamental resources of communication, and even have incorporated different affordances to enhance them (Hurley, 2019). Thus, digital images are a key resource for the environmental groups to communicate their discourses and perspectives about the reality of nature and its relationship with human beings (Hansen, 2010; Cox and Pezzullo, 2016).

This article explores the role of visual elements on the design of visual messages published in social media by environmental groups in South America, emphasising their complementary role in the creation of meaning. For that reason, it will be analysed the content of images published on Instagram by three offices of the Wildlife Conservation Society (WCS) in South America and will try to find patterns in the relationship among the visual elements.

Construction of Nature

The concept of nature has been changing over the time (Eder, 1996; Cox and Pezzullo, 2016): Two centuries ago, nature was conceived as difficult and hostile, one century ago as raw materials and a sign of potential progress, and now as something that needs to be protected for the human wellbeing. The evolution of the concept is linked to the evolution of the different societies, especially of the productive processes that impact the relationship between the people and the environment (Hansen, 2010). Thus, the idea of nature is not centred on nature itself, but on how humanity connects its existence with it (Eder, 1996).

This relationship is socially and constantly constructed (Berger and Luckmann, 1966), evaluated, and renovated according to social changes. For that reason, not all humanity has the same relation with nature, there are different kinds of relationships and, in consequence, different notions of nature. Following this thought, the current paradigms of digital communication, which reduce the costs and time of production and amplify the reach (Garrett, 2006), have been fundamental in the visualization of new ideas and generation of conversations about the different conceptions of reality, including, of course, nature (Couldry and Hepp, 2016). Digital spaces have been transformed into part of the public sphere where the ideas are mediated (Cox and Pezzullo, 2016; De Luca and Peeples, 2002). Thus, through digital screens, we learn about the world and define a position about how it should be, adopting and adapting ideas and values from different sources as our own.

Within the media ecosystem about the environment, the role of the environmental non-governmental organizations (ENGO) is central (Hansen, 2010; Saunders and Roth, 2019). The work of these institutions, non-profit and independent of any government (Fifka et al., 2016), position them as leaders of some movements for the conservation of nature (Nasiritousi, 2019). While it is true that the strategic approach of the ENGOs to the environmental communication is varied (Carruthers, 2001), the most coincide in the relevance of a strong media presence to create awareness, strengthen their influence, and gathered support (Hansen, 2010). According to that, the ENGOs' lack of resources and relative flexibility has encouraged their fast adaptation to new technologies for their communication processes (Hansen, 2010; Evans Comfort and Hester, 2019), even more with the rising of social media as a democratic way of connection and the protagonist role of images in it.

Image design as meaning making

The creation of images, such as photography, design, or art, is a key practice for the constant construction of culture (Mirzoeff, 2016). The role of visuality in it has obtained an evident protagonist position in the last decades, helping to document, represent, and imagine the wide realities of human existence (Lilleker et al., 2019; Wagner, 2011). Images can show behaviours and inexistent possibilities, can insinuate how things are, and project how they could be, making them a very useful tool for the propagation of ideas of political character (Doerr and Milman, 2014; Lilleker, 2019). In this way, in the environmental communication context, the use of images expands the knowledge about nature beyond our realities and suggests how we, as society, should build our connection with it. Thus, different organizations look in the image, as a resource, the possibility to communicate their perspectives and, in doing so, influence the society on different topics such as the definition of the main issues, the role of the common people in the climate crisis, or who are the responsible for the issues (Hansen, 2015).

Now, the excess of circulating images and their constant publication, particularly in digital media, has modified their role in society (Colombo and Niederer, 2019). Because of the high number of daily images consumed by the users of digital platforms, the communicative impact of each one is lower than decades ago (Hand, 2017). Rubinstein and Sluis (2009) explain that the meaning given by a single image has been replaced by a notion given by a stream of them. Thus, images have been started to operate in large groups through digital screens, generating flows of diverse representations that erode the observers' notions of reality. In this way, the amount and coherence of the group of images designed with political goals have gained prominence, as well as the variability of their interpretations (Hand, 2017). This scenario has generated new challenges to structure theoretically the visual communication study, specifically regarding the analysis variables (Gerodimos, 2019). The necessity to study the digital images in their natural form, i.e., as streams, seems to be a new reality. The singular image has lost its power, consequently, its analysis must be flexible.

Analysis of designed images

Images are complex objects which blend elements and variables of different nature to construct meaning. These, such as photographs, texts, typographies, lines, brightness, and so on, are not fully defined because their borders are, in many cases, overlapped and blurry, which can create different approaches of analysis. There are two renowned paths used in the analysis of images as designed products with communicational intentions: on the one hand, those developed over the work of the semiotician Roland Barthes, and, on the other hand, those developed over the work in social semiotics of Gunther Kress and Theo van Leeuwen (van Leeuwen, 2020). Both paths consider the complex mixtures of elements of different natures, different substances according to Barthes (1977) and different modes according to van Leeuwen (2020), in the communicational process of images.

Barthes' theory (1977, 1986) structures the image as a message in three analysis dimensions: a) the linguistic message, which responds to the written texts in an image and, therefore, based on a specific code, i.e., the language; b) the denoted message, which responds to the literality of the image, i.e., the physical/visual description of the represented; and c) the connotated message, which responds to the interpretation made by the observer about the image and, for this reason, is cultural and subjective. Thus, a single image contains a series of signs, some of them chained with others, such as words, and others are independent, such as some cultural interpretations. Over this three-dimensional structure, in which Barthes distinguished, on the one hand, the written text, and on the other hand, the double understanding of the iconic image, he developed three meaning relations between them: the anchorage, when the text act as fixation or guide to the interpretation of the image; the illustration, when the image interprets the text, generally as a way to facilitate its understanding; and the relay, when the image and text act as complements for each other.

In turn, the approach of Kress and van Leeuwen (2001, 2006, and van Leeuwen, 2005), based on the Halliday's linguistic approach (1979, 1985), is centred on the classification of the visual elements that compound an image and their interactions, developing a grammar for the image. Thus, the authors define different variables that respond to the diversity of dimensions of the image, among them: those which respond to the characteristic of the visual elements such as the colour, texture, and typography; those which respond to the organization of the visual elements, such as the composition, thought as the coherence and meaning of the special structure, and the rhyme, thought as the visual concordance between visual elements' features; and those which respond to the dimension of interpretation, such as the style, thought as the expression of source's identity, and the modality, thought as the grade of veracity in which the image should be interpreted. From this approach is possible to analyse the interaction of the visual elements not just with the linguistic signs, but also between each other.

These two theories were, of course, originally developed within their historical and technological contexts. Currently, the technological advances regarding the access to production and consumption of images are evolving, the consolidation of social media as communication platforms and the digital creation and edition software, such as Adobe Photoshop and Illustrator, as accessible ways to participate in the public communication have generated important changes in how people bond to each other. These new technological possibilities ease the design of images, allowing the control of photographs, colours, and typographies, but also the design of new visual elements created to guide in a better way the meaning of the image, elements impossible to be considered as photographs, illustrations, or texts, but auxiliary elements which play a big role in the visual experience.

Method

This article delves into how ENGOs use visual resources to design their public messages and, especially, how they are linked to construct meaning. To understand the visual mechanisms used by these organizations, this study conducted a content analysis (Krippendorf, 2013) from an exploratory approach. The main objective was to find patterns in the use of the different visual elements. Given the prominent use of photographs by the environmental organizations (Katz-Kimchi and Manosevitch, 2015), the study used photography as the base analysis element, i.e., the pattern-finding process looked for relations between photographs and other elements. Using the ideas of Barthes and Kress and van Leeuwen about the structure of the images as codes, there were analysed a corpus of images published by some South American offices of Wildlife Conservation Society (WCS), an important transnational ENGO.

The analysis examines images published on Instagram, one of the most important Social Network Sites (SNS) in the world with more than 1.500 million users in the world (We Are Social and Hootsuite, 2022),

by three offices of WCS in South America: Argentina, Chile, and Colombia. The accounts are active and constantly publish content focused on education and representation of wildlife. The analysed images were published by the Instagram official accounts of these offices from the 1st of September 2021 to the 31st of November 2021 and collected for this study during the first months of 2002. The total number of collected images was 167 (Table 1): from that, 26 by WCS Argentina, 83 by WCS Chile, and 58 by WCS Colombia. According to the decision to use photography as the base of the analysis, it were selected only those images which presented photographic elements, i.e., illustrations or images containing just texts were excluded. This selection defined a corpus of 128 images, 76.6% of the total, corresponding 21 to WCS Argentina, 55 to WCS Chile, and 52 to WCS Colombia (Table 1).

Table 1. Total of published images vs Published images with photography included

	Argentina	Chile	Colombia	Total
Total of published images	26 (100%)	83 (100%)	58 (100%)	167 (100%)
Published images with photography included	21 (80,7%)	55 (66,2%)	52 (89,6%)	128 (76,6%)

The unit of analysis was the individual image. The study presents deductive and inductive approaches because it looks for patterns used as mechanisms in the relations between the visual elements and between substances, it uses the previous categorizations by Barthes and Kress and van Leeuwen, but it is also open to finding new ones. Seems important to mention that this study does not aim to analyse single images in-depth but identify the types of relations existing in their composition by observing an extensive number of images.

Results

The study started with the discrimination between photographic elements, linguistic elements, and ‘others’ elements, such as lines, colour planes, arrows, icons, and so on, called in this article Auxiliary Visual Element (AVE). Of the total of analysed images, two-thirds present linguistic signs (60,1%), meanwhile one-third presents the use of AVE (33,5%). In addition, in most cases, AVEs are accompanied by written texts (30,5%), and its exclusive use is minimal (3,1%) in comparison to the linguistic signs (29,7%).

WCS Argentina is the account with less activity of those analysed. Practically, half (52,4%) of the images published present AVE interventions (Tabla 2). The photographs represent wildlife in the pampas, coast, mountain, and jungle, evidencing animals’ life in their different ecosystems, as well as the human life in natural environments. An image shows a young whale and its presumed mother from an aerial shot, over it there is a circular AVE that evokes the idea of cycle, in it is written *descubrir* (to discover), *proteger* (to protect), and *coexistir* (to coexist) (Image 1). In turn, three images present a very simple anchorage through AVEs: a cetacean’s dorsal fin with a magnifying glass to express the search for whales, and a female sea elephant with a Venus symbol (♀) (Image 2) and a male sea elephant with a Mars symbol (♂), with the presumable intention to taught to identify its genders. Other cases show a campaign informs about the life of the jaguar as the major American terrestrial predator, sharing information about its life in linguistic messages hierarchized by composition and AVEs over impressive photographs of the animal.

Table 2. Intervened Photographs

	Argentina	Chile	Colombia
Photographs without intervention	10 (47,6%)	29 (52,7%)	6 (11,5%)
Photographs with intervention	11 (52,4%)	26 (47,3%)	46 (88,5%)
Total	21 (100%)	55 (100%)	52 (100%)

Tabla 3. Photographic themes

	Argentina	Chile	Colombia
Nature	19 (90,5%)	44 (80%)	38 (73,1%)
Social Events	2 (9,5%)	11 (20%)	14 (26,9%)
Total	21 (100%)	55 (100%)	52 (100%)

WCS Chile is the most active analysed account and, as well as WCS Argentina, almost half of its images present AVE interventions (47,3%), even though there are more that present just photographs (52,7%) (Table 2). Photographs are used for representation, in most the cases, of wildlife or natural landscapes, and in other cases of testimonies of particular facts such as expeditions or events (Table 3).

The Chilean images can be categorised into 3 groups: First, the promotional, which announces an event such as a workshop or an Instagram broadcast. Second, the institutional, which uses photographs and AVE to contextualise information under the visual identity of the organization, i.e., these images use layouts, colors, and typographies from the WCS landmark. Third, the campaign's images, which belongs to an external campaign that WCS Chile supports but does not control. These three categories utilise photographs as a complement to contextualize information given by linguistic signs.

Table 4. Substance of the images

	Quantity	%
Presence of text	77	60,1
Presence of AVEs	43	33,5
Presence of text and AVEs	39	30,5
Only presence of photography and text	38	29,7
Only presence of photography and AVEs	4	3,1
Only presence of photography	47	36,7

WCS Colombia presents just 6 images of photographs without intervention (9,6%). Nevertheless, many of the intervened images correspond to signs that do not try to control the meaning of the photograph, but to declare authorship and property. Thus, of the 47 intervened images (90,4%), 35 (67,3% of the total) correspond to photographs with linguistic signs included, in a reduced size and located in a bottom corner declaring the name of the photographer, and 8 (15,3%) of them present, in addition, the WCS landmark with low opacity over them, declaring its property over them. The declaration of authorship and property adds a new dimension to the image, they are no more just representations of nature, but also, they have features that connect them with the legal structures of society. The other images from WCS Colombia fit with the categorization of WCS Chile.

Discussion

The exploratory character of this study allowed the emergence of edges in different dimensions. The content analysis confirmed the important superiority of the use of photographs in environmental communication, with a participation of more than three-quarters of the published images (Table 1), of which one-third of them correspond to photographs without interventions of any kind (Table 4). Nevertheless, the use of the photographic resource is usually controlled by, principally, linguistic messages. In this way, the organizations are able to organize, clarify, amplify, and specify their messages through announcements, reflections, explications, and, even, questions that interact with the observers. Consequently, it is clear that written text is the main complement for the environmental photograph and vice-versa. However, this

preferent relationship between these two kinds of messages does not diminishes the relevant role of the AVEs.

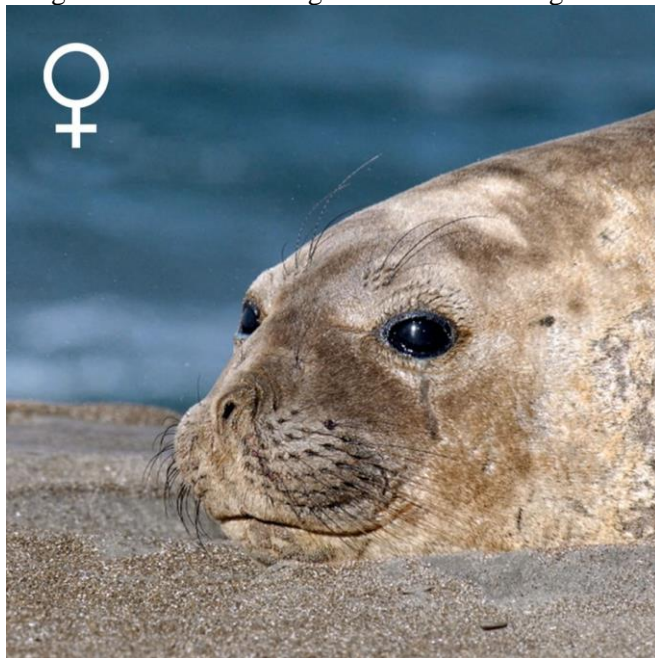
Formed by an intermediate and flexible substance between the photography and the written text, and with many possibilities to be codified and recodified (if not infinite), AVEs offer options to intervene in both the photographic and linguistic messages through its formal characteristics, impacting thus the meaning. The analysed WCS offices use, in most cases, AVEs as a complement for linguistic messages, participating in the composition through lines and colour planes, but also defining reading hierarchies, i.e., defining what content is more important and, thus, the reading order of the elements. In addition, the wide possibilities of formal expression of the AVE allow it to work as an intermediary between the photographic and linguistic logics. The photographic logic shows the scene itself (Barthes, 1986), it reproduces a real scene, specifically the behaviour of the light in the precise moment of the capture and from the lens perspective, but, at the same time, it reproduces certain logics of physical reality as well, logics that do not affect the image itself but can be seen there, such as perspective or gravity. Thus, for instance, in a photograph it is possible to see, or interpret, a flying bird because it is separated from the ground, which is also in the photograph, but, in reality, they are just printed in the image: the bird is not a bird, is not flying, and there is no ground nor gravity. On the other hand, the linguistic logic has no gravity or perspective, just the sequencing of characters forming words, in western countries from the left to the right, usually organized in lines in descendent order. If any of those norms fail, probably, its correct reading will fail as well. Both logics, the photographic and linguistic, participate in the image's meaning-making process, but in a separate way (Barthes, 1986). In turn, the AVE is able to build its own code within the image and adapt itself to both logics. It has the power to modify words by adding a rainbow over them, separate them with a line, or featuring them with horn over a letter, or modify photographs by adding eyes to an object, stars in a day sky, or moustaches to a portrait. Its substance is flexible.

In Image 1, the circular AVE in the representation of the concept of cycle highlights the calf, identifying it as the receptor of the written words: the discovering, protection, and coexistence. The location of the AVE is fundamental for the understanding of the message, in the same way as the photography. In addition, the AVE specifies the anchorage made by the text *Juntos por la Naturaleza* (Together for Nature) because it selects just the calf, not the mother, linking the written idea with the young whale. Thus, the connotation of future evoked by the calf is highlighted by the AVE, leaving the role of the mother as a contextual complement for the meaning. Furthermore, the concept of cycle in the process of conservation is expressed only by the circular AVE, interacting with the image as a relay. In turn, Image 2 presents the sign of Venus in a linguistic logic, with no relevance in its location and far from the physical representation. This sign works as anchorage, indicating that the sea elephant is female, guiding in this way to the observer in its identification.

Image 1. AVE as anchorage and relay. Source: WCS Argentina.



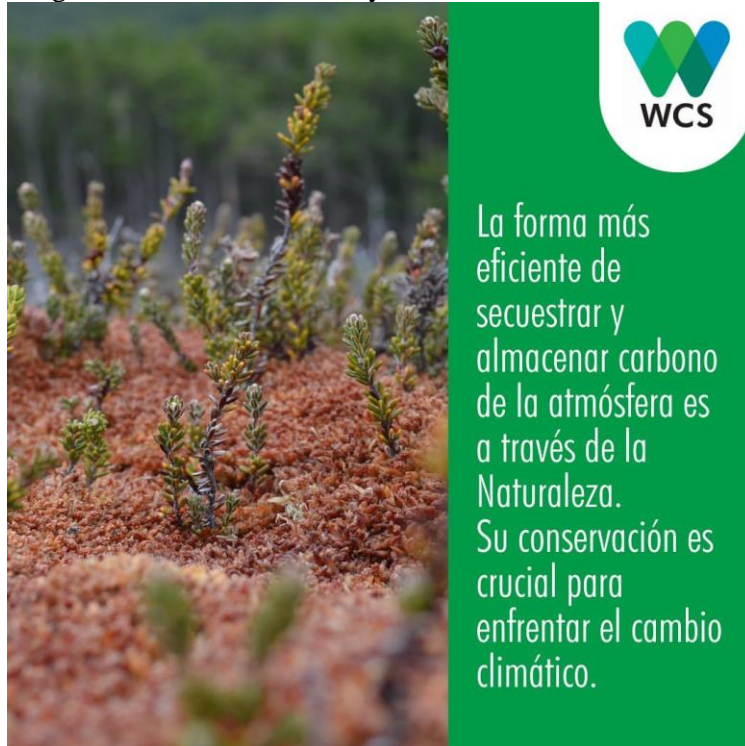
Image 2. AVE as anchorage. Source: WCS Argentina.



In the digital dimension, AVEs are used as interaction indicators according to the SNS' usability. Thus, in addition to highlighting and organizing the content, AVEs in images guide the navigation through the platform in which they are embedded, dealing not just with observers but also with users. There are cases in which AVEs are arrows pointing to the right to indicate that there are more images in the same post, clarifying that the message is not concentrated in just that image, generating thus meaningful connections between that image and others. There are other cases in which the interactive affordances of SNSs are incorporated by the image design, such as the sharing or like icons.

In another dimension, it is possible to observe the systematized use of AVEs to create visual codes. In this case, to represent the visual identity of WCS in some images (Image 3). Thus, through the coherence in the composition, the typographic and photographic selection, the chromatic definition, and the use of different AVEs, such as planes, lines, and frames, visual designers designed the WCS' visual identity to identify and characterized its messages.

Image 3. AVE as visual identity. Source: WCS Chile.



Visual identity installs itself in a different level of meaning, which affects the reading of the image because, independently of the connotation that AVEs give, it evokes the sender and its identity. Thus, the past, values, social relations, other published messages, among other dimensions of the organization's identity participate in the message decoding process. The systematization of AVEs, i.e., a coherent visual code, is how the identity is communicated. This makes easier and faster the design process and, above all, the recognition by the observers if it is compared with independent photographic or linguistic messages. In this process, the role of the landmark is fundamental because it concentrates in its very visual existence the representation of the organization's identity, generating in collaboration with the AVEs connected to it in a connotative way (and, thus, culturally learned), an anchorage type of interaction for the understanding of the meaning of the image.

These cases indicate that AVEs are malleable, able to express specific content to control the meaning of photographs and, at the same time, stay as clearly visual elements. This, give them the capability to dynamize the visual experience and mix the different dimension of meaning. In the case of WCS, it has allowed them to control their messages adding dynamism to their visual communication, highlighting specific features of their photographic material, connecting the linguistic and photographic logics, helping in the guidance of the SRS's user experience, and building organizational identity.

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