HUMAN REVIEW | Vol. 11, No. 2, 2022 | ISSN 2695-9623
International Humanities Review / Revista Internacional de Humanidades
DOI: https://doi.org/XX.XXXXX/xxxxxxxx

A NEGOTIATION WITH REALITY: THE DISCURSIVE ELEMENTS OF THE DRAMATISED DISSEMINATION DOCUMENTARY
My Octopus Teacher: a Case Study

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KEYWORDS

Dissemination
Documentary
Audiovisual
Science
Communication
Environmental
Dramatisation

ABSTRACT

The documentary genre is one of the audiovisual mechanisms with the greatest media efficiency in the transmission of reality. However, depending on the nature of the story, the construction of the textual and audiovisual discourse is altered. In this article, we consider the following questions: Is the documentary a format that is faithful to reality? What modifications does the discourse undergo so that the story is enhanced? To go deeper into this aspect, we intend to analyse the different elements that make up the documentary discourse in its transition from reality to fictionalised narrative. To this end, an inspection of the environmental dissemination documentary My Octopus Teacher (Netflix, 2020) will be carried out. An audiovisual proposal in which the coexistence between human and animal life turns environmental dissemination into a powerful instrument for transmitting scientific knowledge.

Received: 04/ 04 / 2022
Accepted: 27/ 07 / 2022

GLOBAL KNOWLEDGE ACADEMICS

1. Introduction

A audiovisual consumption habits have been transformed. The expansion of new technologies, the different devices and the innovative capabilities of the tools available to citizens have led to an increase in communicative consumption and, even more importantly, an increase in the consumption of audiovisual productions (Barlovento Comunicación, 2021). Hybrid audiovisual consumption is on the rise. This liberalisation in the supply of content has triggered an increasingly specialised audiovisual production and the opportunity for new topics to fill a space in the current media scene.

Societies today urgently need to incorporate the scientific and technological advances achieved by research into the culture of their citizens if they want to move towards a knowledge society (Cotec, 2006). However, science does not have, nor has it had in its history, a relevant space in the media. On television, the few attempts have been limited, in secondary time slots and with modest budgets (Muñoz, 2020). The reason for this is that the dissemination of science, especially audiovisual, has serious difficulties in finding the aesthetic-textual narrative keys to standing out among the vast ocean of content.

The problem lies in the comprehension requirements of both disciplines: science and media. Scientific content requires detailed information and an understanding based on reason through empirical experimentation. The media appeal to emotion and feeling and therefore require more general and simplified information (León & Baquero, 2010). Therefore, this communicative process requires a complex formulation capable of achieving an appropriate balance between both specialities.

Part of the success and communicative effectiveness of science lies in adopting techniques, as tried and tested as they are effective, that are applied in other communicative genres, such as those used in commercial communication (Cotec, 2006). In this context, the scientific message finds in the documentary a dynamic and hybrid space capable of absorbing narrative resources from other structures and formats.

Therefore, this article aims to provide a systematic approach to the artistic-textual narrative elements and their combination to enhance the audiovisual scientific discourse, clarify the actions that generate the balance between what science and the media demand from the discourse, and find out at what point the border between reality and fiction is broken and when it is enhanced.

2. Methodology

To achieve the objective of study, an analysis of the documentary discourse will be carried out from a double perspective: artistic-visual and textual. First, by determining the difficulties in documentary dissemination and hybridization with other audiovisual genres. Second, by analysing the rhetorical elements in *My Octopus Teacher* (Netflix, 2020). From an audiovisual perspective, thematic research will be carried out through the verification and analysis of the significant themes of the narrative structure (Freire, 1970).

In this way, through a critical look at the studied area as a kind of huge *sui generis*, visualising the area as a totality, the elements of documentary language will be determined and identified as the *research codifiers* (Freire, 1970) to go back into the totality and, in the same way, to know the interaction between its parts.

Scientific progress relies on languages' ability to accommodate new semantic pressures and arrangements enabling the communication process. Following the longstanding dissatisfaction of scientists about the use of language to communicate science (e.g., Bentham's slipperiness of verbs and Russell's critique on misleading grammatical constructions), rhetoric establishes metaphors as fitting summaries of scientific phenomena and verbal science as the written, spoken and visual expression of feelings and experiences. Rhetoric scholars and rhetorics of science (Gruber and Olman, 2020) share the core principle of understanding how texts are designed to meet demands and expectations, reveal truths and address particular audiences with distinct purposes. Additionally, it can be said that scientists' use of language aims at persuading expert communities of theories, discoveries and inventions. In the hybrid analysis of the documentary film *My Octopus Teacher*, we will establish a close link between science and communication through the combination of visual elements, rhetoric, narrative and empathy. The prefered methodology consists of surveying the use of rhetorical devices

(e.g., metaphors, símiles and personification), grammar (e.g., nouns, adjectives or adverbs as tools for intersubjective (science) communication), semantics and paralinguistics (e.g., interjections and body language as communication enhancers), the rhetorical conceptualization of ethos, pathos and logos (Aristole, 2010; Corbett & Conners, 1999) and the use of narrative for the production and communication of knowledge (Weitkamp, 2020).

3. Audiovisual and science: two conflicting natures

Scientific discourse is a communicative challenge. This two-edged statement affects the delivery of the message and the reception of the message. In other words, first of all, the construction of the message requires scientific knowledge and understanding on the part of the communicator. The translation of the content must be adapted to the form and timing required by the target audience of the message. Secondly, the receiver must have the appropriate disposition to receive the media translation, in this case, audiovisual, provided by the communicator.

In communication, the relationship between the empirical and media fields is called science dissemination. Journalist Bienvenido León (2001) defines this concept as The attempt to reduce the distance between science and common knowledge. To overcome this distance, it is necessary to construct a specific type of discourse, in which scientific knowledge is submerged in a process of transformation that adjusts it to the audience's modes of understanding (León, 2001).

From another perspective, the communicator Antonio Mangione (2011) agrees that science dissemination is a form of communication of scientific knowledge that accepts variants in terms of format and content. He states that it can be disseminated through a work of theatre, journalistic articles, a television programme, animations, short films, cinema, photography, art or radio and that "scientific knowledge, as an achievement of civilisation, is a public good and an important value that must be disseminated" (p. 28).

Both definitions require a transformation of the message, a translation from scientific language to audiovisual language. Maintaining the scientific rigour and entertainment required by the media is illustrated in a fragile communicative balance. Some specialised authors (León & Baquero, 2010) agree that the resolution of this formula is achieved through the simplification of the scientific message and the combination of the dramatic structures provided by the audiovisual discourse.

In the subject that concerns us, audiovisual science dissemination, the peculiarity of the discourse referred to by Bienvenido León is outlined through the combination of artistic-textual elements that dramatise the audiovisual discourse. In the context of science dissemination, dramatisation consists in altering the reality of the scientific message, while maintaining rigour, in an attempt to arouse interest, through recognised techniques, in the audience.

Craig Foster's use of language in the documentary varies in register (formal and informal, objective and subjective) and allows for an empathic engagement with the octopus as a scientific object and the explanation of scientific processes and the natural environment. The narrator uses similes and metaphors to describe the octopus's appearance ("like an alien", "looks like a rock", and "an old lady in a dress"), behaviour ("using her arms like a strange weapon", and "like a human friend") and scientific process ("it's like much more extreme than our maddest science fiction", "you have to start thinking like an octopus", "it's like being a detective. You just slowly get all your clues together and then I started to make breakthroughs", "as the forest mind", and "you might as well be on another planet"). Observation and scientific practices are further enhanced by the use of personification/anthropomorphization ("She's got no mother or father to teach her. She's alone"), revealing the subjective proximity to the scientific object, and hyperboles describe the natural environment ("wildest, scariest place"). Adjectives are used in abundance to describe the scientific object ("strong", "incredible", "extraordinary", "exciting", "giant", "incredible", "beautiful", "amazing", "exotic", "strange", "maddest", "special", "confused", "crazy", among others). Moreover, verbs ("I totally trust this human") and pronouns ("I", "you", and "she") expand the elaboration and explanation of the scientific process. The use of adverbs of time/frequency ("sometimes") and quantity ("something") add a sense of vagueness to scientific observation which, again, appeals to the subjective dimension in science research and communication.

4. The science dissemination documentary: an experimental format

The origins of the dissemination science documentary are imprecise. The first attemps at popularising science date to the late 19th century as a tool to render scientific discoveries public (León, 2002). Following the Invisible World (1903, Urban Trading - UK), pioneering authors such as Jean Comandon (France) and John Grierson (England) launched themselves into scientific cinema (León, 2022). However, the popularisation of television enabled the dissemination of science documentaries and the arrival of great scientific series such as Carl Sagan's *Cosmos* (1980) and David Attenborough's *Life on Earth* (1979). Felix Rodríguez de la Fuente's *Planeta Azul* (1970) and *El Hombre y la Tierra* (1974) influenced Spanish scientific literacy and vocation (León, 2002).

Science dissemination formats have serious difficulties in two significant aspects as audiovisual media. First, is the difficulty in approaching the general public. Some studies warn that "there is no market for science" and this seems to be the reason why scientific or technological formats are treated so poorly in the media (Cotec, 2006, p. 29). Second, scientific discourse does not find a representative or significant space on the media stage. Consequently, science must reach the public and position itself in the audiovisual space.

Despite the difficulties between science and communication, one genre stands out, which for the moment has proved to be particularly useful: the documentary. Several authors have managed to establish an "effective link between scientific topics and the audience's field of interest, communicating scientific issues in an interesting and intelligible way" (León, 2001, p. 255). However, the question we now ask ourselves is, at what stage of development is the science dissemination documentary today?

To clarify the open question, we must first investigate at what level the documentary genre is at. Following Gaudreault and Marion's (2015) methodological process, two moments follow one another when a format is in the process of creation: the first is related to its emergence and the second to its consolidation. In this first stage, the genre tries to imitate other classic structures that are already established so as not to generate confusion or rupture in its conception. This process of insubordination to the practices that gave it legitimacy that its elements appear and the genre acquires its own identity. As Martín-Zárateb (2021) mentions, all innovation demands a revision of the inheritance, and there is no way of transcending the mistakes of the past without first entering into them.

But it is not just a matter of creating an immutable structure and achieving a format with identity; it must evolve and adapt to the changing trends of audiovisual consumption. Consequently, documentary film, within the confluence of media, goes through its mediamorphosis, in other words, it changes its characteristics to survive in an increasingly demanding, changing and constantly developing scenario (López-Díaz, 2021). Advancing in our analysis, we can elucidate that the documentary format is in a moment of intermediality, it possesses personality, but it does not stop; it continues in the search to consolidate new narrative models to break the conventions of other filmmakers and theorists of the genre (2021).

However, the science dissemination documentary is an subgenre of the documentary genre that is in an incipient state of creation and is still far from having its own identity. Scientific audiovisuals are experimenting with forms and resources that manage to construct an effective discourse, attract the public and consolidate themselves in the current cultural programme.

5. Reality and dramatisation: two antagonistic characters

Grierson's "creative treatment of reality" provides the required theoretical framework. It may vary according to the relationship between the author's vision and the reality represented: first, artistic creation through the documentary can portray living history; second, realistic characters offer a better interpretation of reality; and third, reality allows the viewers to perceive the essence and spontaneous gestures (1966, pp. 36-40).

In the documentary, the author's view determines the reality portrayed and the dramatic-narrative approach. Thus, ethical documentary practice dislocates the view: how do I look, from where do I look, why do I look, what do I look for, what do I look at when I look, what is outside the frame? (Martínez-Zárate, 2021). In stating these questions, the format of the documentary history is formulated and the

type of counterpoint that will keep the simplifying balance of scientific rigour in equilibrium is decided. This counterpoint, typical of the media, will be responsible for placing the documentary product in the orbit of audiovisual consumption. Furthermore, *My Octopus Teacher* approaches ethos, logos and pathos (Aristotle, 2010) in its science communication effort. In the pursuit of knowledge, Craig Foster verbalizes the underlying ethical concern in all scientific research. The process of research and observation should, according to the narrator, acknowledge errors and be sensible to animal otherness. Craig Foster's standing brings to mind the rhetorical principle of kairos as associated with science production and communication: given the psychological motivation behind the documentary's production and filming, it is questionable if the documentary is the endgame and/or byproduct of personal motivation and, for that reason, is itself ethical. The passionate involvement with the subject matter ("All I could do was think of her", "It became this sort of obsession", "What does she dream? If she dreams, what does she dream about?", "Thank God she's safe", and "[a] terrible feeling in your stomach") reflects an excessive emotional attachment and questions the clear scientific separation between objectivity and subjectivity implying that science in itself is culture and emotion-driven. Proper scientific research (relevant nomenclature, anatomical information on the octopus, scientific literature) is residual in the documentary's narrative.

An excessive scientific content in the documentary discourse sometimes makes the consumption of information tedious due to its lack of comprehension and the effort it requires in terms of attention. Consequently, science dissemination documentaries are often not presented as a balanced and attractive audiovisual product capable of captivating the public's interest. In this effort to create a stimulating scientific audiovisual product, the author uses the most convenient aesthetic-discursive forms and elements to feed the story. Some of the main resources are the dramatisation of the discourse, narrative tension, and the link with the objective of the study, etc. In this way, the story is constructed and is led through different levels of content, altering the scientific load and alternating doses of entertainment in search of discursive balance.

Therefore, it is necessary to identify the narrative elements that alter the reality of the facts to turn the story into a fictional account. In this way, the audiovisual product ceases to be merely a faithful representation of reality and becomes a fictionalised documentary discourse. Despite the difficulties, there are some documentaries recognised by the public, science and communication professionals that have achieved the dramatic balance to captivate the audience by constructing a discourse that is both interesting and rigorous (León, 2001). In the case of our research, the challenge lies in the dissemination adventure of *My Octopus Teacher* (Netflix, 2020).

The relationship between narrative and science is yet to be explored. Traditional science communication entails the factual and unengaging transmission of facts. On the other hand, the use of narrative in science communication allows for novel ways of transmitting new information, concepts and findings. In that regard, overcoming scientific *storyphobia* implies the acknowledgement that all scientific process occurs within subjective sociological contexts and paradigms. Storytelling and narrative humanize scientific findings, offer familiarity and reduce barriers around technical language, allowing the audience to connect to new knowledge through a familiar genre.

Audiences may absorb narrative messages more easily when the narrative intent is disguised in the content and sympathetic, likeable characters make messages seem less authoritative. "We can consider ways in which performance (narrative or otherwise) can facilitate the learning of scientific concepts, by allowing principles to be contextualized through narrative and embodied through narrative" (Gruber & Olman, 2020, p.242).

Narrative and storytelling are the main strengths in *My Octopus Teacher* —the narrator becomes the object of filming as much as the octopus. The documentary presents a plot structure in which a hero undergoes a journey and makes a discovery (while overcoming obstacles). Craig Foster relates science communication to comprehensible linguistic structures and allows for an emotional engagement through language, first, with his audience and, second, with the scientific object. *My Octopus Teacher* challenges the traditional epistemic value and production of science by presenting it through an elaborate subjective lens. The first-person narrator's childhood and professional narrative intertwine with the natural environment in a storytelling fashion ("It was a long time ago when it all started", and "Two years of absolute hell") simultaneously appealing to the personal and the scientific rendering as obvious the sociocultural contexts in which all science necessarily occurs. Objectivity and subjectivity are not separate in the circumstances leading to science and in production science as well.

That said, the ethical questioning of *My Octopus Teacher* surmounts once again: in establishing a personal understanding of the scientific object, narrator and audience alike may become too engaged in the narrative and/or empathic dimension of the story and diminish its scientific aims and outcomes.

The ethical positioning of science and narrative demands continued care in the approach to communicating science and, on that line of thought, the ethical demand of choosing between the scientific and the narrative. *My Octopus Teacher's* use of emotions as experienced within science takes place through linguistic and paralinguistic elements such as semantics ("Boom!", or "And then bang!"), tone, gestures and physical orientation/body language. *My Octopus Teacher* conveys science through emotions and science and emotions through discourse. Science communication is framed and expressed through subjective interactions with the surrounding environment and scientific object. Craig Foster offers a subjective approach to science communication by articulating emotions through ambiguity ("upset") and metaphors ("having cold feet") —science communication in *My Octopus Teacher* depends on individual emotional sense-making, particular ways of talking, thinking, acting and interacting. Nonetheless, the expression of individual emotions is included in the possibility of collective sense-making of science making it possible for marginalized and dichotomized emotions once again to take place in science research and communication.

6. *My Octopus Teacher*: a case of a balanced documentary?

My Octopus Teacher is an environmental science dissemination documentary directed by Pippa Elrich and James Reed starring and produced by Craig Foster and an Academy Award winner for Best Documentary in 2020. Filmmaker Craig Foster shares his experience of self-discovery and learning with a female octopus in the Great Kelp Forest off the southern coast of South Africa. A story that, by the definition of some science educators (Sack, 2021) is visually stunning and scientifically fascinating.

Netflix summarizes *My Octopus Teacher* as "A filmmaker builds a curious friendship with an octopus in South Africa. In the kelp forest where it lives, the animal reveals the mysteries of its world" and categorises it as a scientific and research documentary (Netflix, 2020). This preamble introduces the film as a dramatised story as the viewer is aware that a human and an octopus cannot establish a friendship or a communicative act. Nicole Ross (2021) points out in this regard that the film gently persuades the viewer to give into their human-centred ontological and epistemological assumptions and consider the possibility of other ways of knowing and being.

My Octopus Teacher is a classically structured film, in which the main protagonist, Craig, narrates his perceptions and existential experience in the first person. One of its directors, James Reed (2021, 8m03s), remarks that remarks that discoursive impact stems from the direct access to octopus as an unique study object. Its director, Pippa Ehrlich (2021), notes that they tried to shoot several interviews, but they did not work, so they opted for a more traditional voice-over approach to natural history, with Craig telling a story in the form of a conversation, but doing so from a script. Reed (2021) recounts how they went back to the edit and restructured the film around that conversation and that is how the personal access to the footage was created, now, the storytelling was unpredictable and unplanned, and it was like that, and from then on the film took on a different feel, and that is when Netflix came on board.

In dissemination terms, marine biologist Melanie Knight points out how incredible the story is in terms of the life cycle of the octopus, its relationship with Craig and the construction of marine life. It's amazing how the character learns about himself, the animals and the environment" (Knight, 2020, 0m49s). However, there are details such as the gender of the octopus, which are not explained in the film, he tells us that it is a female, but does not explain why he knows this (2020). In this sense, it may be more convenient to narrate a relationship of friendship and love if the gender of the octopus is female and facilitates the fictionalisation of the story. Melanie Knight defines the documentary as "totally inspirational and has inspired the biologist to divulge some more specific aspects about the marine life of this animal" (2020, 7m36s).

7. Identification of the elements of audiovisual discourse

In the textual and audiovisual analysis of the work, the purpose is to identify the main expressive codifiers present in the documentary and, in this way, to explore how the communicative balance is achieved in the discourse between science and audiovisuals.

The construction of the scientific statement is the essence of achieving science dissemination. The method used in *My Octopus Teacher* effectively balances audiovisual entertainment and the documentary as a genre.

7.1. Scientific content

The most relevant aspect of the scientific content in Ehrlich and Reed's film is the rationalisation of the doses of environmental scientific information within the narrative diagram. At what point is the informative and didactic aspect enhanced and when is there a greater dose of entertainment to keep the viewer engaged in front of the film?

In *My Octopus Teacher*, the most informative is found in the central segment of the documentary, when the story has been planted and captivated the audience's attention. In this passage, the specifics of the octopus' environment are narrated and a more generic and classic view of documentary film is acquired. Consequently, the most scientifically pure fragment emerges with the appearance of scientific articles overprinted in the image to which Craig refers as a source of knowledge and uses this moment to give and justify the scientific information that is taking place. For example, comparisons such as "imagine having 2000 fingers" or "its intelligence is comparable to that of a cat or a dog (...) a mollusc should not be so intelligent" (*My Octopus Teacher*, 2020, 34m58s). At this point, there is a transition from dreamlike music to a more energetic and inspirational one. "Again and again, he would go back to the scientific articles". However, he raises research as an under-examined area for science, referring to the fact that he finds no information about what he observes.

Thus, the presentation of scientific discourse emerges as an unknown and innovative subject for science, which brings more attention from the viewer because it is something "unpublished". However, in the sphere of reality, to what extent is the content innovative when the information it shows is generic and recognised? However, it is in the sphere of fiction, in the sphere of the character and the spectator where this content is unprecedented. This strategy is presented as a very effective element for transmitting information and captivating the attention of the viewer, who discloses scientific information alongside the figure in the story.

Another element of relevance is when the atmosphere supports the scientific findings and serves to illustrate and immerse us in the content. For example, we witness the atmospheric change in the night sequence. This scene is introduced when "according to the literature, the octopus is a nocturnal species" (*My Octopus Teacher*, 2020, 35m50s) so that the actions that follow are introduced through the scientific and factual content that Craig finds out in his quest to explore this unknown subject. He expresses his fear of night diving and it is at this point in the narrative that the sonic atmosphere becomes subjective with what he hears underwater, the humpback whales, the bubbles. Similarly, the music increases dramatization as the narrator explains the octopus' nocturnal eating habits.

7.2. Connection to the case study

One of the elements to be worked on for science dissemination to be successful is the link that the story establishes with the case study, in other words, what position this object of research acquires in the narrative sphere, with the characters and with the spectator.

In the case of *My Octopus Teacher*, the relationship between Craig and the octopus becomes a story of friendship that, at times, is perceived as a sentimental attachment that interferes with the character's well-being and state of mind. In the first minutes of the film Craig comments that he does not wear neoprene or oxygen tanks to swim in the kelp forests. Rejecting equipment enables a realistic vision of the octopus's natural environment. Craig mentions, "if you really want to strengthen your bond with an environment like this, it helps a lot to get rid of any barriers that prevent you from doing so" (*My Octopus Teacher*, 2020, 09m32s).

This link is designed from the beginning of the film in the first encounter with the object of study. As Craig dives, stripped of all artifice, the music becomes joyful: "I encountered something inexplicable. Even the fish seemed confused (...) and suddenly" (*My Octopus Teacher*, 2020, 11m52s) the octopus, or object of dissemination, appears for the first time and an almost fantastic allegorical celestial music emerges. The protagonist appears pensive: "I was not aware then that I had seen something extraordinary. I had come to the end of the whole story" (*My Octopus Teacher*, 2020, 12m49s) and so begins Craig's relationship with the object of dissemination, in a way that is both beautiful and celestial and at the same time extraordinary and you wonder what is going to happen here? What kind of relationship is the story proposing between two elements of a different nature?

Figure 1. Craig diving with the octopus

Source(s): Netflix, 2020.

The dramatised narration establishes a prodigious relationship between the character and the animal: "I think my presence was stimulating to her incredible intelligence. The limits between me and her were blurred" (*My Octopus Teacher*, 2020, 31m08s). The story intends to to build on the viewers' intimacy, from the perspective of a character who observes, experiments, *plays* and has an *octopus friend* in an extraordinary way. All this while explaining their characteristics, morphology and way of life from Craig's vision and lack of knowledge. The aspect that captivates the spectator is to discover the life of the octopus together with the character, and it does so, moreover, from exclusivity, from restricted access that only Craig has.

This strategy is repeated gradually throughout the film. Every time the two meet, the music becomes motivational, inspirational and beautiful. The image loses its esthetic function to show a testimonial confection with minimal barriers between the observed reality and the camera.

7.3. Dramatisation

One of the most relevant research codifiers for achieving scientific audiovisual balance is narrative dramatisation. Craig behaves like an amateur scientist in a marine laboratory, but without naming the words *scientist* and *laboratory*. His methods, as with science, are rigorous. As a model, Craig begins to discover biological information about the octopus through the method of periodic observation and literature review. However, the story frames this account as a challenge in Craig's dealing with depression as a necessary and therapeutic action for his and his family's well-being. It establishes the dramatic structure of the narrative as a scientific methodology. Craig will discover his day to day life by recording his daily behavior: "He will go every day for a year, the life of an octopus" (*My Octopus Teacher*, 2020, 14m22s).

The structure of the documentary is built closely on the character's state of mind. The presentation of Craig's existential problem is a reason for the viewer to identify with the human and everyday problems of the spectator. The protagonist presents his malaise and disconnection with life and becomes the target of the discourse to be solved. So the relationship with the octopus and the

existential search becomes the action and the trigger of the story through the reconnection with the animal world.

To carry out the film's narrative strategy, the octopus is given an anthropomorphic treatment. Craig turns the image of *she*, the octopus, into a sociable animal with human actions, personifying her behavior: "How much we are alike in many ways (...) Does she dream? And, if yes, what does she dream about? (...) She was playful" (*My Octopus Teacher*, 2020, 33m47s). However, it is recognised that an octopus is an asocial animal. To further illustrate, Craig mentions during the story, "at the time I was thinking about her all the time. In the water and out of the water (...) I fell in love with her but also with the wildness she represented and how much she changed me" (*My Octopus Teacher*, 2020, 01h22m16s).

One of the most respected research codifiers in the film's dramatisation is the maintenance of scientific rigour in the process of seeking knowledge. Analogous to what happens in everyday science. Craig positions himself in a position of respect when interceding in the octopus ecosystem, just as science does not alter the conditions of the object of study. For this reason, the narrator, despite his anguish, does not frighten the sharks, and does not protect the animal from the adversities of the animal world.

However, Craig's inoperability as a testimonial narrator of what happens becomes a very powerful source of narrative tension for the dramatisation of the discourse. The narrator expresses "as if, in some way, the same thing had happened to me as happened to her" (*My Octopus Teacher*, 2020, 43m22s). In this respect, the spectator, as another witness like Craig, feels the same frustration and empathy when she is assaulted. During the recovery of the octopus, empathy is reinforced through the identifying elements of the discourse and both the audience and Craig feel relieved, "at the same time, I felt I was overcoming my own difficulties. In a way, our lives mirrored each other" (*My Octopus Teacher*, 2020, 47m01s).

7.4. Figure of the dissemination

The choice of the dissemination figure is one of the most important decisions in the narrative structure of a science dissemination story. Normally, this process is limited by the communicative capacity of the speakers. It is necessary to emphasise that, in most cases, they are characters from the scientific field who do not have the appropriate communication skills for audiovisual production.

In this case, the format is limited to interviews or small interventions that provide content, but the stage presence is reduced. In this sense in the film *My Octopus Teacher*, the story was being "nuanced" as a real and transformative experience for Craig and he was at the point of sharing it, but in this sense, a formula had to be found and several interviews with the protagonist were attempted (Ehrlich, 2021). Ehrlich comments that

> There was something very powerful about sitting him down in interview format, he was really nervous about being in front of the camera, Craig is an excellent public speaker and is one of the most charismatic people you will ever meet, but he is shy and introverted and doesn't like to have too many eyes on him. Probably because he was too close to the project the interview didn't work. (Ehrlich, 2021, 21m30s)

After several attempts and options, the one that worked best was the conversation between Craig and James:

> I remember being in that room and watching that conversation and feeling so happy and relieved at how the testimony was translating on camera, it was really powerful and I think that kind of authenticity and spontaneity that comes through in the storytelling was the key to the narrative part. (Ehrlich, 2021, 23m45s)

In this way, it is worth noting that to obtain the formula of the dissemination figure, it is necessary to identify and appreciate the communicative skills of the characters to obtain the potential required by the science dissemination story.

Figure 2. Craig as dissemination figure

Source(s): Netflix, 2020.

7.5. Narrative tension

To maintain the communicative balance between reality, dramatisation and science, moments of heightened narrative tension are required to arouse intrigue and restore the attention of the discourse. In our case study, moments of danger and threat in the relationship between the octopus and Craig are frequently used to increase the narrative tension after the *calm* doses of scientific content.

In *My Octopus Teacher*, this happens every time the octopus as an animal species is at risk. When pyjama sharks, their main predator, appear, the music becomes dramatic and wearying. While Craig explains the characteristics of these animals, he provides the scientific environmental information and at the same time dramatises the suspense: "There are lines you can't cross (...) it's only a matter of time before something happens" and being aware that the octopus' life is short and its relationship will be brief "it only has a year to live" (*My Octopus Teacher*, 2020, 45m21s).

This danger also occurs when the strange friendship between the octopus and Craig breaks down or weakens. When he intentionally scares her and she quickly flees by ejecting ink, the music becomes dramatic, the slow-motion appears. Craig appears depressed while a timelapse marks the passage of time. The expectation is generated powerfully from the visual impact and through the off-speech: "I returned to the water with my heart in my fist (...) wondering if I would see her again the next day" (*My Octopus Teacher*, 2020, 45m57s). This fragment resembles a police search with tense music, an almost impossible mission. Superimposition of images begins, as in detective fiction. In this sense, it it engages and stimulates the viewer to want to know more about the life of the octopus, to find it again and to learn more about the maturity and life cycle of this animal.

7.6. Environmental awareness

When a work of environmental science dissemination is carried out, one of the main objectives cannot be forgotten, which is the knowledge and awareness of the reality described. In our case study, the environmental dimension is achieved through the communicative work between what and how the information is shown. Jimmy Chin states that

> There are a lot of films about conservation and the environment and sometimes it feels like they are giving you the antidote, but this film, its composition and architecture, is very light to watch and generates a deep sense of appreciation for the natural environment and Craig's incredible sensitivity. (Chin, 2021, 10m46s)

In this sense, the film subtly accesses the viewer's sensibility by allowing them to explore, through Craig's prospecting and his relationship with the octopus, the setting portrayed. This is how the producer feels when he mentions, "nature had given me so much that now it was my turn. I still had so much energy to give back" (*My Octopus Teacher*, 2020, 01h18m03s) which leads to action and the creation of the Sea Change Project (Ross, 2021).

One of the relevant aspects of science dissemination, although difficult to quantify, is the promotion of scientific vocations. As the researcher and disseminator Antonio Mangione (2011) points out, science dissemination is recognised as having a high impact on awakening vocations. Even though there are certain difficulties in estimating the effect of science dissemination on the level of public understanding of various scientific topics (2011). This is the case in the film with Craig's son, "now a budding marine biologist" (*My Octopus Teacher*, 2020, 01h18m10s).

7.7. Specific technical-visual elements

During the visual discourse, the actions are supported by some technical aspects that deserve an outstanding description. First of all, it is worth noting the sound immersion made during the film about the state of mind of the character who possesses the narrative charge. Nicole Ross (2021) notes that elements of the poetic mode are evident in the lively and intimate filming of the octopus in all its complexity, the atmospheric explorations of the expanse above and below the sea, the diegetic, oceanic and non-diegetic orchestral sounds that accompany the footage, and in the overall visual, tonal and rhythmic quality of the film.

In this respect, it is worth mentioning the connection between the visual tuning of the story and the mood of the protagonist through the speed of the image, the internal movement of the shots, the assembly of the montage and the music. When he is lost, audiovisually it is represented by images of rain, blizzards, slow motion, and greyer cinematography. When Craig regains his motivation, he starts filming again, the music becomes motivational, in crescendo, and beautiful photographs and strange and unusual behaviours of the animal world appear.

Finally, it is worth mentioning the use of archival resources as a classic element of documentary discourse. The photographs and videos of Craig's youth with the African trackers, in original and interlinked format, lend verisimilitude and veracity to the narrative. This action is relevant because it confers relevant information to understand Craig's actions during the film and what it means to him as a method of reconnecting with his roots.

8. Conclusions

This article bears witness to the work that dissemination of science requires of its two extremities: science and audiovisuals. However, the responsibility for quality science communication lies with the communicator. The construction of a balanced narrative structure requires two fundamental requirements to be met by the communication professional. Firstly, the communicator must have a profound scientific knowledge of the object of study to be reported, researching exhaustively and finding out what possibilities the subject of study offers. Secondly, artistic-narrative techniques of audiovisual format require sublime skill and understanding. This is the only way to achieve a narrative balance in the dissemination of science. The simplification of scientific content, therefore, presents itself as a brittle and unstable juncture that requires the rigour of science and the backing of the primary source of knowledge, the scientist.

The documentary format manages, once again, to satisfy the parties involved: the public, the media and science. The format is presented as an elastic and mouldable space that satisfactorily accepts the creator's combinations. Finding a success story recognised by the audiovisual sector and with scientific approval is no easy task. However, *My Octopus Teacher* presents itself as an encouraging

example of the triumph between science and audiovisuals. For this reason, the documentary format emerges as hegemonic among the rest of the audiovisual opportunities.

The coexistence of visual and narrative elements in *My Octopus Teacher* is its most significant challenge. On the one hand, the rhetoric of science verifies the importance of linguistic and paralinguistic elements in the making of the documentary. The extensive use of metaphors, símiles, personification, adverbs or adjectives supplies the documentary's science communication intents by humanizing its narrator and scientific object. Furthermore, *My Octopus Teacher* enables science through narrative and storytelling demonstrating that the study of narrative in science should prevail as a component in science communication studies. Moreover, science communication is much richer than traditional science fiction literary analysis. On the other hand, the documentary's achievements may be its most significant peril. *My Octopus's Teacher* aesthetic narrative achievements may overtake its ethical intent in creating environmental awareness and preservation. Science communication, regardless of the media in which it is produced, must have science as its byproduct. The challenging balance between objectivity (science observation), subjectivity (Craig Foster's existential crisis) and intersubjectivity (the audience's engagement with Craig Foster), may waste away if aesthetics (the cinematic representation of science) overcome ethics (environmental awareness and preservation). Aesthetics and ethics are to be an integral part of science communication. Nonetheless, science communication has to move beyond film and deductions.

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