

Why Should I Care? : Analyzing the Effectiveness of an Environmental Documentary

What value is there in learning something that cannot be applied to one's own life?

Granted, our lives are filled with extraneous information and facts that we may never find a practical use for, but for the most part, we value knowledge that matters. To the average person, scientific knowledge can seem esoteric and irrelevant; it often leads to the question, "Why should I care?" For the director of a science documentary, answering that question is critical.

Today, the massive quantity of carbon dioxide that human beings emit into the atmosphere is also absorbed by the ocean, raising the concentration of carbonic acid, and thus acidifying the oceans on a vast scale. As a result, coral reefs around the world are disappearing, degrading into "hypoxic zones," or regions where acidity and lack of oxygen prevent the ocean from sustaining any appreciable amount of life. (Fabry, Seibel, Feely, and Orr). According to a study published by the International Council for the Exploration of the Sea, carbon dioxide concentration in the atmosphere rises by 0.5% every year due to human activity, approximately one-hundred times faster than any change during the past 650,000 years. In addition, acidification prevents many marine organisms from building the calcified shells they rely on for survival (Fabry, Seibel, Feely, and Orr), and therefore poses a threat to the entire marine food web.

Ocean acidification is an issue with an unequivocally large impact on the entire planet. Yet much of the public is unaware of the issue because the seminal question, "Why should I care?" has not been adequately answered for most. Two documentaries attempt to tackle this deficiency of public awareness: the National Resources Defense Council's *Acid Test: The Global Challenge of Ocean Acidification*, directed by Tristan Bayer and David Hinerfeld, and BBC's *The Death of the Oceans?*, directed by Peter Oxley. Both documentaries, produced in 2009 and 2010, respectively, include nearly identical facts, and even consult some of the experts on the issue of

ocean acidification, yet their presentation of evidence differs considerably. As a result, their effectiveness at engaging their audience and compelling them to act differs significantly.

So what key elements allow an environmental documentary to engage its viewers? Diego Pineda, who holds a master's degree in science journalism, writes in his article "Editing A Science Documentary" that a key aspect of a good science documentary is its ability to tell an engaging story. Both Bienvenido Leon, who published a study on the filmmaking style of David Attenborough, and Ben Lamar, who holds a Masters Degree in Science Communication, establish the importance of emotional persuasion over empirical reasoning in environmental documentaries. In addition, they discuss the need for environmental documentaries to demonstrate a clear link between scientific issues and human life.

The collective work of these three writers establishes a set of criteria upon which to evaluate how effectively an environmental documentary motivates its audience to act. A compelling documentary is achieved through a well-constructed storyline, persuasion of the viewer through appeal to emotion, and a strong emphasis on the connection between the environmental issue and human life.

An effective documentary must have a well-constructed storyline that can be both didactic and engaging. Pineda writes, "No matter what style a producer chooses for a documentary, he or she is always trying to tell a story" (47). Through storytelling, the director of a documentary can not only maintain the viewer's interest, but can also present information in a way that is intuitive, and more likely to be remembered. Leon underscores this idea through his argument that documentaries "[do] not communicate intellectual, theoretical, or technical knowledge in a detailed, logically-structured way" (1), but rather "use narrative structures that create an effective connection with those understanding methods which are familiar to most people" (2).

The narrative style of *The Death of the Oceans* is far superior to that of *Acid Test* in its ability to create an effective connection with its audience. In BBC's *The Death of the Oceans*, narrator David Attenborough's engaging style of storytelling follows the CENSUS Project, a widespread effort by scientists to document the ocean's multitude of life, particularly coral reefs. Director Peter Oxley uses this project's research process as a framework for the narrative, within which Attenborough aptly guides the viewer through the basic science of ocean acidification, the deleterious effects of the commercial fishing industry, and the history of our oceans. This establishes a consistent and logical pace to the documentary.

Attenborough uses a highly effective technique called *evidentia*, "a rhetoric operation, based on vivid detailed description, which tries to situate the audience in a similar position to that of an eyewitness" (Leon 8). The viewer follows the findings of the Coral Reef Project as they unfold, discovering the adverse effects of ocean acidification alongside the researchers themselves. They watch as Julian Kaley, a leader of the CENSUS Project, recovers an ARS or "Autonomous Reef System," which has internally grown a coral reef after being submerged in the ocean for a year. Ambient music emphasizes the feeling of discovery while Kaley and his team examine organisms from the reef under a microscope. Kaley's team members remark about the incredibly diversity and vitality of life within coral reefs. Later in the documentary, the viewer observes a different team of CENSUS researcher hauling in nets of fish and counting them, realizing that catches are becoming increasingly sparse due to overfishing and profound changes to the marine environment. Director Oxley's choice to show so much hands-on footage from the CENSUS research teams is an effective one: the viewer feels as if they are present at the very instant when the teams make their discoveries. Through the collective findings of each CENSUS team, the narrative naturally builds up to its underlying conflict: the danger that human carbon dioxide emissions and overfishing pose towards the ocean.

Though *Acid Test* is factually identical to *The Death of the Oceans*, the former employs a much less dynamic narrative style. The documentary feels more like a lecture than a story; it

mainly underscores the significance of ocean acidification through a fact-based approach. Throughout the documentary, marine biologists and other experts explain the causes and effects of ocean acidification in front of a green screen, while the narrator, Sigourney Weaver, summarizes the issues in her own voice. There is a feeling of disconnect between the vibrant and organic images of ocean life and the facts being presented by scholarly-looking experts.

An important distinction to notice between *The Death of the Oceans* and *Acid Test* is the physical appearance of the experts who provide testimony about ocean acidification. In *The Death of the Oceans*, marine biologists and other scientists are seen wearing wetsuits, diving to the ocean floor, working in labs, or onboard a ship – they speak about their research at the precise location where the research was conducted. Through this, director Peter Oxley artificially creates the sense that the viewer is present at the moment each piece of evidence was discovered. In clear contrast, the experts from *Acid Test* present their evidence in front of the same blurry, artificial, green-screen image of an ocean. This setting does not capture the viewers interest, and constantly reminds the viewer that the documentary is summarizing events that happened in the past.

*Acid Test* begins with facts from each expert who is seen in the film: Lisa Suator points out the importance the ocean for food, transportation, climate regulation, and oxygen. One of her colleagues, Ken Caldera, adds that the oceans are exposed to the atmosphere over 70% of the earth's surface, causing them to absorb 25% of atmospheric carbon dioxide, equivalent to roughly 22 million tons every day. Weaver herself adds even more severity to the issue by gravely stating that ocean acidity will double by the end of the century, and that this acidity will cause all of the calcified shells of marine life to dissolve within fifty years (*Acid Test*). During the 22-minute documentary, testimony from each of the half dozen scientists culminates into a conclusion that humans are clearly culpable for ocean acidification, but through more sustainable practices, they can mitigate the issue. The narrative has ample factual substance, but delivers it by neatly summarizing it for the viewer in a lecture, rather than guiding the viewers through a process of discovery.

In each documentary, the presence of the narrator has a huge impact on the effectiveness of the narrative. Discussing the importance role of a narrator, Pineda argues that “There must be an identifiable face through whom you tell a story” (1). Though both David Attenborough and Sigourney Weaver are preeminent narrators, Attenborough’s presence is more clearly integrated into the narrative, while Weaver’s is not. In *The Death of The Oceans*, Attenborough’s character follows the setting of the documentary, always appearing in front of a new coastline or beach as he talks earnestly to the camera about where he is, and *why* he is there. His voice is organic and enthusiastic, and it is clear that he is involved the documentary on a personal level. His unifying presence throughout the narrative helps the viewer navigate the complex sequence of research projects, historical data, and interviews that make up the documentary. While Weaver’s narration adds cohesion to the facts presented in *Acid Test*, her rare appearances on camera occur in front of a artificial, solid-black background, creating a sense of detached authority; it is more difficult for the viewer to identify her as the “face” of the story. Whenever the documentary cuts to a scene of Weaver in front of an artificial background, the narrative development of the documentary feels interrupted, and Weaver’s narration feels almost metafictional, reminding the viewer that they are watching carefully scripted scenes.

Although the substance of a documentary is based in fact, in order for it to be effective in persuading the viewer, it must appeal to emotion as well as reason. Emotional persuasion is ultimately what makes a viewer respond to the issue. According to Ben Lamar, a Masters Student of Science Communication, it is essential to portray emotion through the visual components of a documentary because “emotion-laden imagery can help facilitate persuasion and may motivate people to act” (26). He also argues that images that we see travel to the emotional regions of our brain before we can critically evaluate them:

Signals from the eye run straight through the thalamus and the amygdala. The second is through the neocortex where the signal is analysed and then sent to the amygdala, adding

an emotional response to the signal after cognition. The implications of this sequence of perceptual processing means that there is therefore a predetermined bias in the way we respond, i.e. the image reaches our emotions before we can cognitively process and understand the image. (26).

Given this scientific insight, it is clear that emotional responses can be an invaluable tool for a documentary director trying to persuade the audience to act. The directors of both films use evocative imagery to their advantage – where persuasion through facts and logic can be complex or boring, appeal to emotion is much more useful.

Each documentary is interspersed with images that underscore the vibrancy and beauty of the ocean environment. These serve to awaken the viewer's sense of "biophilia," the innate human love for nature (Lamar 31). During the opening scene from *The Death of the Oceans*, Attenborough alludes to biophilia when he fondly states, "The world's oceans have always held a special place in our hearts" (*Death of the Oceans*). Vibrant underwater images of dolphins, manta rays, glimmering schools of fish, and whales surfacing above the ocean create feelings of appreciate for the beauty of the ocean. Similarly, in *Acid Test*, footage of exotic jellyfish, neon octopi, and multicolored reefs instill a sense of wonder in the viewer. Through these aesthetically pleasing images of the ocean, the documentaries exploit the strong positive emotions that arise from the audience's biophilia. The directors use these images to establish the intrinsic value of the ocean, and the innate importance of the ocean to the viewer, before the viewer even knows that the ocean is threatened.

After evoking a sense of wonder and intimate connection to the ocean, the directors of both documentaries use negative scenes that evoke disgust, fear, and feelings of loss to further enhance the emotional experience of the viewer. The juxtaposition of positive and negative emotions makes the viewer's emotional response to the documentary even more powerful. In *Acid Test*, directors Bayer and Hinerfeld show underwater footage of a reef that collapsed in 2003 to evoke a negative emotional response in the viewer. The desolate reef, in contrast to vibrant

footage of ocean life at the beginning of the documentary, instills a sense of fear in the viewer over the irreversible destruction that has taken place as a result of global warming and carbon dioxide emissions. Similarly, in *The Death of the Oceans*, grotesque images of dead reefs instill feelings of dread. As the marine scientist Professor Ove Hoegh-Guldberg dives down to examine a reef, he says that “All I can see are bleached corals. All that’s left are the reflective skeletons” (*The Death of the Oceans*). Later in the documentary, a montage of footage from fishing ships shows fins being cut off of live sharks, turtles and other creatures caught in nets, and thousands of fish being pulled from the ocean – this sequence evokes anger in the viewer over unsustainable and inhumane fishing practices. Even though overfishing is not the main concern of *The Death of the Oceans*, a narrative detour into this issue allows director Oxley to show disturbing visuals that influence the viewer’s emotional state.

These negative images, often accompanied by dramatic music, give the viewer a sense of urgency and need to protect the ocean ecosystem. Lamar writes that “because of the proposed emotional affinity we have for nature, negative emotions may be evoked when we see environments or animals are threatened. Disgust-evoking visuals are often used in an attempt to persuade people to act environmentally” (35). Following this advice, the director of each documentary uses positive imagery to instill empathy for the marine life and a commensurate amount of negative imagery to create antipathy towards human carbon dioxide emissions and the destructive fishing industry.

It is clear that directly Oxley, Bayer and Hinerfeld intentionally use evocative imagery to illicit an emotional response from their audience. After the audience has established an emotional link to the environmental issue, the job of these directors is to use this emotional link to connect the problem of ocean acidification to the viewers themselves.

After appealing to the pathos of the viewer, an effective environmental documentary must also emphasize the relevance of the environmental issue to the viewer’s life and to human

life in general. Leon argues that it is most critical for documentaries to address the “practical consequences of [the subject matter] to everyday life,” and that “any topic can be interesting as long as the viewer can see it is related to his or her life” (3). Lamar expands on this idea, arguing that “How a given person reacts to an emotional encounter depends on their evaluation of the encounter, known as emotional appraisal... The first is known as the primary appraisal, and involves deciding whether or not the situation is of relevance to one’s well-being” (19-20). Therefore, if a documentary does indeed elicit an emotional response from the viewer, it must follow up by clearly demonstrating the relevance of the issue that prompted that response.

Both documentaries provide ample evidence to prove to the viewer that ocean acidification not only adversely affects human life, but is undeniable caused by human activity. In *The Death of the Ocean?*, narrator David Attenborough solemnly describes how due to acidification, overfishing, and climate change, commercial fishing will have collapsed by 2050, and the only food source left in the ocean will be bacteria. Attenborough tells the viewer that “Giant factory ships, sonar, and kilometer long nets allow us to plunder the ocean,” and reminds the viewer that “As we discover more [marine life], we also discover that more of it is disappearing because of us.” At the conclusion of the documentary, Attenborough stands in front of a world map depicting the areas of the ocean that will be most negatively affected by human activity and delivers a call to action: “We can’t just turn back the clock... Scientists are sure of one thing. Do nothing and the implications are inevitable. We must act with the data we now have” (*The Death of the Ocean*).

In *Acid Test*, Weaver states that the collapse of the marine food web will affect the livelihood of millions of people around the world. In her most succinct statement about the danger we pose to the ocean, Weaver says that “the importance of the ocean is rivaled by our own power to destroy it.” Professor Hoegh-Gulberg, who emphasizes the seriousness of ocean acidification through his interviews in both documentaries, describes the frightening thought that



because of ocean acidification, “we’re moving towards an ocean of weeds” (*Acid Test*). At the end of *Acid Test*, Weaver presents her own call to action: “We can go on as we have, forcing future generations to survive without the oceans, or we can move beyond fossil fuel, and secure a future that works for all of us.”

In both documentaries, David Attenborough and Sigourney Weaver make it explicitly clear in the final lines of their narration that human action is necessary to avoid the impending collapse of the ocean ecosystem. But do they leave the viewer with sufficient knowledge and motivation to act? Both *The Death of the Oceans* and *Acid Test* provide enough relevant information for the viewer to grasp the cause and effect of ocean acidification, and to make informed decisions related to pollution, fish consumption, and fossil fuel usage. But where *The Death of the Oceans* guides the viewer to a conclusion through a nuanced, engaging, and often poignant narrative, *Acid Test* falls short of this goal. Granted, *Acid Test* must disseminate a great deal of information in only 22 minutes, but its fundamental lack of a storyline limits the documentary to a shallow, fact-heavy presentation of the ocean acidification.

Today, human beings have virtually all knowledge at their fingertips, yet we seem less and less interested in learning about it. The question that stands in our way is, once again, “Why should I care?” Analysis of *Death of the Oceans* and *Acid Test* in light of the research from Lamar, Leon, and Pineda reveals that this question cannot be answered to the average person through facts alone. After all, facts are what we have so much of yet choose to ignore. What makes us truly care is an experience – a story, an emotion, a personal connection to an issue. For a documentary to mobilize the public to address worldwide problems that desperately need our attention, they must tell compelling story, and let the audience decide how to respond to it.

## Works Cited

- Acid Test: The Global Challenge of Ocean Acidification*. Dir. Tristan Bayer and Daniel Hinerfeld. Perf. Sigourney Weaver. National Resources Defense Council, 2009. *NDRC.com*. Web. 8 Oct. 2015.
- Lamar, Ben. "Going Green: Evaluating the Effectiveness of Environmental Documentary Film." *University of Otago*, Dec. 2012. Web. 8 Oct. 2015.
- Leon, Bienvenido. "Science popularization through television documentary: A study of the work of British wildlife filmmaker David Attenborough." *Panteneo Forum*, 2004. Web. 8 Oct. 2015.
- Pineda, Diego. "Editing a Science Documentary: More Than Words (Literally!)." *Council of Science Editors*, 2004. Web. 8 Oct. 2015.
- The Death of the Oceans?* Dir. Peter Oxley. Perf. David Attenborough. BBC Horizon, 2010. *BBC.co.uk*. Web. 8 Oct. 2015.

MIT OpenCourseWare  
<https://ocw.mit.edu>

21W.034 Science Writing and New Media: Perspectives on Medicine and Public Health  
Fall 2016

For information about citing these materials or our Terms of Use, visit: <https://ocw.mit.edu/terms>.