# A TRIANGULAR APPROACH TO SCIENCE FILMMAKING

by

Anne Catherine Devereux

A thesis submitted in partial fulfillment
of the requirements for the degree

of

Master of Fine Arts

in

Science and Natural History Filmmaking

MONTANA STATE UNIVERSITY
Bozeman, Montana

May 2010

APPROVAL

of a thesis submitted by

Anne Catherine Devereux

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citation, bibliographic style, and consistency and is ready for submission to the Division of Graduate Education.

Dr. Dennis Aig

Approved for the Department of Science and Natural History Filmmaking

Robert Arnold

Approved for the Division of Graduate Education

Dr. Carl A. Fox

# STATEMENT OF PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a master's degree at Montana State University, I agree that the Library shall make it available to borrowers under rules of the Library.

If I have indicated my intention to copyright this thesis by including a copyright notice page, copying is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Requests for permission for extended quotation from or reproduction of this thesis in whole or in parts may be granted only by the copyright holder.

Anne Catherine Devereux

May 2010

TABLE OF CONTENTS

# ABSTRACT

The discipline of film studies is often limited by its own obsessions. Approaches designed to illuminate how we view films, and make films, often limit our thinking, instead. It is not surprising that the analysis of such an extraordinary medium presents endless arguments, debate and inspires the critic or theorist to narrow the field of view in order to make it manageable.

Recent work in the fields of cognitive psychology and neuroscience which, when applied to our critical analyses of film, is changing the discipline of film studies. In conjunction with traditional narratology, this interdisciplinary approach enables us to reconfigure the relationship between narrative and spectacle, creating a triangular relationship that draws attention to discourse. This triangular approach affords a more nuanced and comprehensive analysis of how science documentaries affect viewers. In turn, these analyses encourage science filmmakers to recognize discourse as a means of creating more emotionally powerful, aesthetically coherent, and memorable science films.

Like a great mind, the discipline of film studies flourishes most when it remains open. The creation of this triangular analytical relationship is merely one way of enhancing our ability to study the effects films have on an audience, on the future of the medium, and on aesthetics as a whole. In seeking an academic and theoretical basis for the gut-level notion that films affect us both emotionally and intellectually, it is critical to chart an interdisciplinary course.

# INTRODUCTION

There is recent work in the fields of cognitive psychology and neuroscience which, when applied to our critical analyses of film, is changing the discipline of film studies. This work, in conjunction with traditional narratology, enables us to reconfigure the relationship between narrative and spectacle creating a triangular relationship that draws attention to discourse. This triad of narration, spectacle, and discourse allows us to approach critical analysis in new ways as we discuss the particular area of science documentary. Science films generally favor evidentiary information over emotion. As a result, science films tend to subordinate narrative in favor of spectacle or eliminate narrative altogether. The addition of discourse into the narrative vs. spectacle analytical framework highlights the importance of discursive strategies, regardless of where a given film resides on the narrative / spectacle continuum. Discursive design can determine whether a film moves an audience or is nothing more than a moving image accompaniment to an encyclopedia entry. Inviting discourse into the narrative vs. spectacle argument allows a triangular approach to the discipline of film studies, which affords a more nuanced and comprehensive analysis of how science documentaries affect viewers. In turn, these analyses encourage science filmmakers to recognize discourse as a means of creating more emotionally powerful, aesthetically coherent, and memorable science films.

With a focus on film structure, I look at the way in which discourse enhances or subverts narrative and spectacle in two films that take different tacks on the same subject. I compare *Encounters at the End of the World*, a film by Werner Herzog, to the *Planet*

*Earth* series episode, *Ice Worlds*, both of which teach us about Antarctica but using significantly different structural approaches. From this theoretical perspective, I shift to the practical application of the relationship between narrative, spectacle and discourse by examining the making of my short fiction film, Трубка (pron. \troob-ka\).

## Narrative vs. Spectacle

The relationship between narrative and spectacle, and their intrinsic value in the *mimetic*, or imitative arts such as literature, theater and film have been wrestled with since the time of Aristotle in 350 B.C. Despite the common interpretation that Aristotle viewed spectacle as "the least artistic, and connected least with the art of poetry," (Aristotle 6) his assessment was not so black and white. Buried deep within the notes of French philosopher Paul Ricœur's book, *Time and Narrative,* is a fascinating observation about Aristotle's inconsistent handling of the value of spectacle:

> The mixed status of pleasure, at the interface of the work and the public, no doubt explains why spectacle has such a fluctuating place in the course of the *Poetics*. On the one hand, it is said to be "least germane to the art of poetry" for tragedy "fulfills its function even without a public performance and actors" (50b16) On the other, it is one of the "parts" of tragedy. So although inessential, it cannot in fact be excluded since the text gives us something to see (59b19) (Ricœur 242).

Film critic Richard Schickel treats the value of narrative vs. spectacle less ambiguously, likening the overthrow of traditional narrative by spectacle to anarchy:

> What we get… is not narrative as it has been traditionally defined, but a succession of undifferentiated sensations… there is in fact no *authentic* emotional build-up, consequently no catharsis at the movie's conclusion… [We] are left without consoling coherences of old-fashioned movie narrative, left with anarchy, picking

> through the rubble it leaves in its wake wondering what hit us (Schickel 3-4).

In *mimesis*, discourse can be thought of as the shaping mechanism that organizes narrative, spectacle or both into rhetorical form. "The poet may imitate by narration—in which he can either take another personality as Homer does or speak in his own person unchanged—or he may present all his characters as living and moving before us," Aristotle advised (Aristotle 4). These means or modes of mimesis highlight discursive options and remind us that we have infinite choices in how we tell a story—how we use elements of narrative and spectacle to move an audience. As Bill Nichols states in his examination of documentary film, *Representing Reality*, "What films have to say about the enduring human condition or about the pressing issues of the day can never be separated from *how* they say it" (Nichols xiii).

Of particular concern in the subgenre of science filmmaking is the tendency for filmmakers to leave discourse unattended. In film studies, there are varying definitions of "discourse." For the purposes of this paper, we define discourse as the rhetorical "language" of a film—the way in which the film argues its story and how that argument persuades a viewer. The language of discourse encompasses formal tools of filmmaking, such as dialogue, character development, editing and score. But it also contains more nuanced aesthetic elements such as mood, tone and style. Discourse in science films tends to focus on evidential facts and findings over emotion, which can hinder a film's ability to communicate and connect with its audience.

# FEELING FILMS: THE PSYCHOLOGY AND SCIENCE OF EMPATHY

## Building on the Psychoanalytic Approach

Recent work in cognitive psychology has attempted to apply cognitivist assumptions to film and emotions. Media scholar, Greg Smith, has probed deeply into cognitivism in search of an emotional system that might explain how films make us feel. In the anthology, *Passionate Views*, Smith orients us to this evolving field by explaining the psychoanalytic approach to film studies—a precursor to his work:

> Film studies has tended to avoid direct contemplation of the potentially messy concept of the emotions. Contemporary film theory of the 1970s concentrated on issues of meaning and representation and their ideological implications. When contemporary film studies did explain the affective experiences of spectators, it tended to frame its discussion in terms of "pleasure" or "desire." What pleasure does the cinema afford, and what desire motivates our viewing? Beginning with Christian Metz and Laura Mulvey, film studies has asserted that cinematic pleasure and desire can best be explained by a Freudian/Lacanian psychoanalytic approach (Smith 10-11).

This Freudian approach is central to narratologist Peter Brooks' argument in the 1984 work, *Reading for the Plot*. Brooks breaks from the constraints of Formalism to investigate our relationship with narrative through a psychoanalytic lens. "We look to a convergence of psychoanalysis and literary criticism," writes Brooks, "because we sense that there ought to be a correspondence between literary and psychic dynamics, since to an important degree we define and construct our sense of self through our fictions" (Brooks xiv). In particular, Brooks focuses on plot. "Plots are not simply organizing structures," he claims. "They are also intentional structures, goal oriented and forward

moving…Plot is conceived to be the outline or armature of the story, that which supports and organizes the rest," (Brooks 11).

In order to understand the way in which plotting and narrative are tied, Brooks turned to Freud's *Beyond the Pleasure Principle* (1920)—specifically man's struggle between the death drive and the pleasure/reality principle. Brooks argues that we are driven to read because of our drive to find meaningful, fully contained, and complete order in the chaos of life. Brooks explains that we read because of the mechanisms of sexual drive, but that drive is "subtended by the death instinct, the drive of living matter to return to the quiescence of the inorganic, a state prior to life" (Brooks 51).

While Brooks delves deeper into the motor of plot, we can step back to see that his narratological commentary provides insight into our interaction with film discourse. The design of how a reader/viewer is led through the retelling of a narrative is discourse.

A Freudian interpretation, however, limits the investigation of film theory to the subconscious mind. Theorist Torben Grodal, one of the most accomplished scholars in the field of cognitive film theory, suggests that the complement of cognitive theory to psychoanalytic theory offers a more comprehensive system. Additionally, he cites both story and spectacle as viable means of emotional and intellectual communication:

> Film viewers prefer to experience narratives that strongly activate the mind and body, that move and touch, that cue the production of adrenaline and elicit visceral reactions. Such feelings and physical reactions are linked with narratives that offer stimulating cognitive problems and scenes of spectacle and intrigue. The phenomenal world of narratives, consisting of cognition and bodily reactions, is a central concern of directors, actors, and viewers, but has not received much attention from film theory. In film theory the investigation of filmic emotion has been based on romantic and psychoanalytic theories, which hold that the apparent content of

> films is only a veil. Recently, however, a number of books and articles have shown that a description of emotions based on physiology and cognitive psychology provides far more satisfying results. Emotions and cognition are two aspects of the way our embodied brains function (Grodal 127).

This penetration into cognitive film theory deepens our understanding of the multiple levels on which film discourse might operate on our intellect and on our emotions.

Greg Smith agrees with Grodal regarding the deficiency of a purely psychoanalytic approach, but he goes on to argue that the cognitivist approach is deficient as well. The cognitivist approach is not structured to properly model emotional film theory, either. Smith argues for a more nebulous emotional system of analysis called the "mood-cue approach" and singles out the importance of a film's mood:

> The emotion system is more complex—messier, if you will—than such functionalist assumptions would indicate. While retaining a cognitivist understanding of emotions as structured phenomena, I wish to muddy the waters by portraying the emotional system as based on a looser connecting principle (associations). I argue that the primary emotive effect of film is to create mood. Because it is difficult to generate brief, intense emotions, filmic structures attempt to create a predisposition toward experiencing emotion. Moods prepare us to express or experience emotion. They are orienting states that cause us to interpret stimuli in a particular emotional fashion (Smith, 104, 115).

Smith's mood-cue approach is significant precisely because it is messy. It stands to account for the phenomena, which are often intangible and difficult to describe, let alone analyze. Smith continues:

> In order to access the emotion system, cues need not be linked to representations of human actors in any strong way. Emotional associations provided by music, *mise en scene* elements, color, sound, and lighting are crucial to filmic emotions, and this approach provides a way to talk about their importance without necessarily harnessing them to onscreen representations (Smith 126).

The elements Smith discusses belong to the diegetic world of a film—the cinematic universe or reality that a film creates and is grounded in. Yale University's Film Studies Guide states, "the 'diegetic world' of the documentary is usually taken to be simply the world" (Prunes, Raine and Litch 1). I would argue, however, that the most powerful documentaries create a diegetic world all their own by placing equal value on information and emotion. To borrow Smith's terminology, evocative documentaries do more than just convey information: they establish a discursive mood that has a strong emotional effect on a viewer.

## Mirror Neurons: The Greatest Thing Since DNA

Stepping away from psychology and cognition film theory we venture into neurology and brain science, where discoveries have found neurological evidence of empathy. Empathy is the emotion that allows us to step into the diegetic world of a film, to experience the events in as first-hand a way as any mimesis truly allows. In contrast to sympathy, which refers to our human capacity to feel *for* another, empathy is the ability to feel *with* another. Theorists from varying fields define empathy differently. Philosopher Edith Stein sees empathy as, "the experience of foreign consciousness in general" (Stein 7). Psychoanalyst Heinz Kohut views empathy as "the capacity to think and feel oneself into the inner life of another person" (Kohut 33.) Finally, neuroscientist Jean Decety sees empathy as "a sense of similarity in feelings experienced by the self and the other, without confusion between the two individuals" (Decety and Jackson 72.) All of these definitions share one thing: a universal sense of likeness. Empathy is our vehicle

to both positive and negative likeness or vicariousness—vicarious feelings, learning, and experience.

What makes our capacity for empathy so exciting is the role it plays in filmmaking. Empathy is the vehicle that pulls us in and engages us. When we are told stories that do not trigger our empathetic response, the connection we form with a film is almost fully intellectual, like reading a newspaper. Often it does not exist at all. Conversely, when we make that empathic connection, the effect of stories on us is more deeply felt and enduring.

Perhaps the most radical aspect of empathy is our awareness that while we may feel like another, we are *not* the other. This awareness marks the fine line that exists between being emotionally affected by a story and having to experience events personally and first-hand in order to feel for another. As Decety and Jackson explain, "Empathy involves resonating with another person's unconscious affect and experiencing that person's experience along with him or her while keeping one's own self-integrity intact." (Decety and Jackson 55.) This particular characteristic of empathy allows us to fearlessly invest in a story and join an emotional ride, often so deeply that we forget we are watching a film in the first place.

In the mid-1990s, at the University of Parma in Italy, Giacomo Rizzolatti made an astonishing discovery that led psychologists to change how they discussed the brain. By implanting electrodes into the heads of macaque monkeys, Giacomo and his team discovered that the same neurological response occurred in the brain of a monkey when it

was performing a task or watching another monkey, or even a human, perform the very same task. Mirror neurons were discovered.

Brain scans have now indirectly established the presence of the same neurological activity seen in the macaque monkeys as in human subjects. Mirror neurons have emerged as a compelling biological explanation for a broad range of brain activity, from a newborn's instant response to a mother's smile, to a movie audience's gasps during a particularly exciting chase scene.

Journalist Eric Jaffe wrote an article for the Association for Psychological Science's *Observer* on mirror neurons and their expansive implications. In the article Jaffe discusses unprompted responses to a previous article he had written on the power movies have on our behavior. "…To my surprise, many researchers discussed, without prompting, the role mirror neurons play in explaining why viewers connect so strongly to on-screen emotions… One scientist placed these neurons on the same plane as DNA in the realm of scientific discovery" (Jaffe 1).

Mirror neurons have not been pinpointed in humans with the same accuracy that they were pinpointed in the monkeys, with electrodes monitoring neurological responses. As a result, many researchers refer to a general "mirror system." Yet Giacomo's work has led many researchers to agree that mirror neurons play a large role in empathy (Jaffe 2.) For the purposes of narrative texts—literature, theater and film—scientific backing for what was once an unprovable psychological response is exciting. What was once merely the purview of evolutionary psychologists is now critical to our understanding of how audiences perceive the actions of others and why our emotional responses to films can be

so profound. As Sheila Curran Bernard points out, "Think about the experience of being completely held by a film. You aren't *watching* characters on screen; you're right there with them, bringing the clues you've seen so far to the story as it unfolds" (Bernard 23). One might argue that filmmakers and film theorists were ahead of the neuroscience curve regarding to their identification of the "vicarious" capacity of empathy, but it was neuroscience that ultimately proved the existence of this emotional phenomenon in the brain.

# DISCURSIVE STRUCTURES OF NARRATIVE AND SPECTACLE

## The Space Between Story And Discourse

Often science films neglect the importance of empathy entirely because their primary concern is conveying scientific facts. While there are fiction films that focus on scientific themes, the majority of science films employ documentary techniques because there is a seemingly natural fit between science and nonfiction film. We assign credibility to the documentary form, and the importance of accuracy in science filmmaking is almost always stressed. As Bill Nichols describes it, "The status of documentary film as *evidence from* the world legitimates its usage as a source of knowledge" (Nichols x).

Bernard focuses on this connection: "Factuality alone does not define documentary films; it's what the filmmaker does with those factual elements, weaving them into an overall narrative that strives to be as compelling as it is truthful and, at its best, results in a film that is greater than the sum of its parts" (Bernard 2).

The Russian Formalists used the terms *fabula* and *syuzhet* (pron. \soo-zhay\) to distinguish story from discourse. Story refers to the chronological series of events in a narrative; discourse refers to the manipulation of these events in the retelling. As film theorist, David Bordwell states in *Narration in the Fiction Film,* "The most analytically important variable is the set of formal correspondences between fabula and syuzhet. That is, to what extent does the unfolding syuzhet correspond to the logical, temporal, and spatial nature of the fabula we construct...Any syuzhet selects what fabula events to

present and combines them in particular ways. Selection creates gaps; combination creates composition" (Bordwell 54). Science filmmakers seem to fear the creative selection from story to discourse because it can subordinate science or demand such "gaps" that might sacrifice accuracy. But creative discursive design, and the merging of emotional aims with intellectual ones, only stand to increase the power of a film's impact.

Choosing what field of vision to place in a frame, editing film clips so that a particular image sits next to another—these fundamental discursive choices dance between narrative and spectacle to keep a film moving forward. Bordwell extends his discussion of representation by drawing upon the works of Russian formalist filmmaker, teacher, and writer Sergei Eisenstein:

> It is in Eisenstein's notes, essays, and lectures between 1932 and 1947 that his version of a mimetic theory becomes most explicit. Now spectator effect is less bound to an ideological thesis, more allied with absorption in the narrative process itself. He demonstrates how the unfolding of an emotional donnée [subject or theme of a narrative] can become the basis of an entire work, from staging through editing. He posits various techniques to articulate the revelation of the emotional essence of the work…Eisenstein's work, both early and late, presupposes overt narration—not the speaking voice of language or literature, but an invisible master of ceremonies who has staged this action, chosen these camera positions, and edited the images in just this way. The expressionist emphasis of Eisenstein's theory of direction assures a continual awareness of the director's shaping hand (Bordwell 14-15).

In science films, it is as though the lines demarcating documentary film from fiction film prevent filmmakers from focusing on the correspondence between story and discourse. Film theorist Janet Staiger argues that genre demarcations enhance and enable innovation within the form because the survival of the genre is dependent on constant innovation

(Staiger, 186). I argue that in the case of science films, the super genres of fiction and documentary prevent some science films from fully realizing themselves aesthetically, as films rather than illustrated lectures or a list of evidential facts. In *The Film Sense*, Eisenstein adds:

> There should be no arbitrary limits set on the variety of expressive means that can drawn upon by the filmmakers…As always, the richest source of experience is Man himself. The study of his behavior and, of his methods of perceiving reality and of forming images of reality will always be our determinant…We must keep sharp notice of the means and the elements through which the image forms itself in our consciousness (Eisenstein 70-71).

## Exoticism v. Empathy

When comparing mainstream documentaries with science films, there is a disparity between the discursive use of narrative and spectacle. Science films largely favor spectacle, subordinating traditional narrative elements such as character development and story structure, as if these tools will dilute the strength of the science. In recent years the mainstream in *both* science and natural history filmmaking has turned to technology for impact and innovation. If we are not seeing stories-high images in 70mm IMAX-capable theaters or 3D imagery, we are seeing resolutions so high and sharp that even mundane objects take on new clarity.

There is, however, a distinction between the design and effect of science films and natural history films, the latter often leaning heavily on anthropomorphic character development. As the writer Bousé states, "In the absence of an authoritative voice or other information, we often have only self-analogy with which to make sense of the

actions of animals, and it is in this sense that anthropomorphism is seen by some as all but inescapable when we try to understand the behaviors of animals" (Bousé 104). When we can engage with a living creature, our empathetic response is often triggered as though we are watching characters just like ourselves. We see a mother and baby blue whale being approached by orcas, and our emotions drift to ideas of family, mortality, danger, protection and conflict. This engagement is exemplified by the success of the *Planet Earth* and *Blue Planet* series, and subsequent releases such as *Oceans,* and, most recently, *Life*.

On the other hand, when we gaze at intergalactic nebulae, even in 70mm-high definition, we might feel wonder and amazement, but we are hard-pressed to make any kind of emotional connection. In this case spectacle becomes *exoticism*, a discursive strategy under the order of spectacle in which we encounter something far out of the ordinary. Primacy belongs to technology and the simplest of factual information, not story structure and narrative—it is exoticism in an almost pornographic sense:

> The process of knowing by means of possessing that prevails in classic heterosexual pornography places the narrative at the service of documentation…This departure from the needs of narrative progression into a realm of sexual demonstration resembles not only the structure of musicals, with their seemingly disruptive songs and dances, but also a tendency in early cinema that gave priority to the exhibitionist display of remarkable sights (Nichols 213).

Mainstream science filmmaking has failed to recognize the importance that discourse brings to the table. Exoticism can move audiences to feel something, but sustaining general audiences emotionally and intellectually requires persuasion.

In 1989, film theorist Tom Gunning tried to relate the development of cinema to forces other than storytelling. The success of these mainstream science films can be attributed to the very "cinema of attractions" Gunning identified:

> Theatrical display dominates over narrative absorption, emphasizing the direct stimulation of shock or surprise at the expense of unfolding a story or creating a diagetic universe. The cinema of attractions expends little energy creating characters with psychological motivations or individual personality. Making use of both fictional and non-fictional attractions, its energy moves outward towards an acknowledged spectator rather than inward towards the character-based situations essential to classic narrative (Gunning 58,59).

When Gunning refers to a "diegetic universe" he is referring to the unique reality in which a film claims to be grounded. In the cinema of attractions, this world cares little about telling a story or connecting us to characters. There is an undeniable "wow" factor seeing water droplets morph at 500 frames per second, something the naked eye could never capture, but the potential for emotional impact by these "cinemas of attraction" are dependent on the status of the viewer. An astronomer might feel a deep emotional connection to intergalactic nebulae, whereas another viewer feels like a stranger,or interested, yet emotionless, spectator.

When scientific phenomena and concepts feel exotic and complex, when we are given pure spectacle, it is difficult for the viewer to remain engaged because so little emotional participation is required. In Bernard's words, "General awareness of the documentary form has been confused by a crowded schedule of 'reality' programming that…is often mediocre, if not stale—stories of predators and prey, autopsies, deadly weather, and celebrities. Like junk food, it may be temporarily satisfying but offers little

in the way of actual nourishment" (Bernard 5). Without discourse we lack ample sustenance and are left to merely feed on empty calories.

# NARRATIVE AND SPECTACLE, MEET DISCOURSE

## Structuring A Human Connection

In order to sustain the viewer's emotional and intellectual appetite, filmmakers must employ a discourse that reaches beyond issues and facts. Compelling films require thoughtful and intentional manipulation of structural elements in order to inform the viewer in a memorable way.

Filmmakers setting out to retell any story organize events, emotions and information into a coherent aesthetic form. Structure is the discursive road map upon which every plot detail, word of dialogue, note of music, and frame of film is marked. Structure contains all of the formal elements of a film, and discourse charts the filmmaker's opinion on how best to tell a given story. Often structure offers too simple of a path from point A to point B, which fails to draw the viewer in emotionally and intellectually. In other cases structure leans on mere chronology, which, while accurate, evokes little interaction with the viewer.

In *Documentary Storytelling,* Bernard discusses the common absence of structure in the nonfiction form as a whole:

> We've all sat through documentaries that seemed pointless and meandering. Maybe they had great beginnings, but then they seemed to start again, and again, and again. The film seemed to be about one thing, but the rousing conclusion was about something altogether different. The story started in the present, and then quickly plunged into background and never resurfaced. Or the situation and characters were so weakly developed that we found ourselves caring little about the outcome (Bernard 14).

Aristotle wrote the *Poetics* with a particular emphasis on structuring: "Every Tragedy, therefore, must have six parts, which parts determine its quality- namely, Plot, Character, Diction, Thought, Spectacle, Song…But most important of all is the structure of the incidents" (Aristotle 4). Aristotle's sense of dramatic structure was simple and clear: "Let us now discuss the proper structure of the Plot, since this is the first and most important thing in Tragedy. Tragedy is an imitation of an action that is complete, and whole; a whole is that which has a beginning, a middle, and an end" (Aristotle).

In *Making A Good Script Great,* Linda Seger discusses modern three-act structure:

> Dramatic composition, almost from the beginning of drama, has tended toward the three-act structure. Whether it's a Greek tragedy, a five-act Shakespearean play, a four-act dramatic series of a seven-act Movie of the Week, we still see the basic three-act structure: beginning, middle and end—or set-up, development and resolution (Seger 19).

Despite the prevalence of the three-act structure in mainstream work, audiences are savvy enough to accept different discursive structures as long as they provide ample aesthetic, emotional and intellectual support of the story. In *Alternative Scriptwriting*, Ken Dancyger and Jeff Rush discuss structuring decisions as linked to the story a filmmaker is trying to tell:

> The perspective you choose, along with everything else, is up to you. This is where your individuality can yield an interesting angle. This is where you begin to apply the range of narrative strategies that best suits your story. Structural options begin to develop once you have a main character, a premise, and a story form (Dancyger and Rush 262).

Two films that provide a fascinating look into structural decision-making take extremely different tacks on the presentation of life in Antarctica: the BBC series, *Planet*

*Earth: Ice Worlds,* and the independent documentary, *Encounters at the End of the World,* by Werner Herzog

*Ice Worlds* titillates the viewer with some of the most stunning images caught on camera to date—footage of species and phenomena in Antarctica and in the Arctic. But the viewer experiences merely a pornographic (in Nichols' terms) spectacle of nature, a human-less story whose filmmakers manage to make Earth feel more foreign than intimate in the process (Nichols 223). Throughout the episode, the only voice we hear is the third-person narration of British naturalist, Sir David Attenborough, and the cinematography is so stunning that it distracts the viewer from investing any significant emotion in the film's scientific discourse.

By contrast, in *Encounters at the End of the World*, Werner Herzog travels to Antarctica with the viewer tucked in his pocket. Herzog accepts an invitation to the continent by the National Science Foundation only after explaining that he will not return with a film about penguins. Instead, Herzog wonders what attracts people to Antarctica and wants to ask what he deems the interesting questions about "nature." Leading with characters, rather than science and species, Herzog connects us to human beings practicing the discipline of science, and in so doing emotionally engages us immediately. This engagement allows for a more intimate conveyance of scientific ideas and an almost accidentally rich scientific education. The result of these structural decisions is a deeply felt story, rife with lasting scientific understanding—an understanding the *Planet Earth* series is unable to achieve.

*Encounters at the End of the World* opens with choral music and atypical underwater images. Herzog explains that this footage, shot in Antarctica's Ross Sea, is the reason he wanted to go to Antarctica in the first place. The images are almost dirty, with portions of ice containing odd black spots in them. They stand in stark contrast to the almost clinically perfect imagery found throughout *Ice Worlds*. With Herzog as our first-person voice-over guide, we travel from under the Ross Sea to the interior of a military plane. People are packed into its giant compartment, sleeping or working on laptops, "Who were the people I was going to meet in Antarctica, at the end of the world? What were their dreams?" We see intimate imagery of people sleeping, unaware that they are being photographed. Herzog explains that he is as surprised as anyone to be on this flight, given his unconventional interest in such a place and his generally unconventional questions about nature. "Why is it that certain species of ants keep flocks of plant lice as slaves," he asks. Imagery cuts abruptly from the plane interior to macro photography of ants. "Why is it that a sophisticated animal as a chimp doesn't utilize inferior creatures? He could straddle a goat and ride off into the sunset." The film cuts to a kitsch painting of a chimp on a goat in the desert at sunset.

Upon landing Herzog interviews an ice taxi driver who tells a story of almost getting killed while in the Peace Corps in Central America. Perhaps the story stands to highlight the precariousness of venturing into a foreign land, but the film and Herzog seem unconscious of structural design. Herzog confronts the heavy machinery and military complex-like feeling of Magruder Station, where his trip commences. "I didn't

expect fluffy penguins, but...," he says. This candid admission builds an instant means of kinship with Herzog. We trust him because he acknowledges disappointment.

Next we meet a forklift driver who, like Herzog, is fascinated not by Antarctica itself but by the characteristics many visitors share. This character is allowed to riff on the philosophical implications of going off the grid and living at the South Pole. These offbeat glimpses into odd images and characters establish a unique tone of unedited curiosity rather than of control, of free-form structure rather than premeditated acts, and the last thing we expect from this film is to learn anything about science. From the beginning of *Ice Worlds*, by contrast, we are positioned for a science lesson. We quickly realize, however, that we are not going to meet any characters; rather, our role is to observe. This discursive decision on the part of the *Planet Earth* filmmakers severely limits the investment we are able to make in the frames and images we see.

With Herzog, the first scientist we meet is a glaciologist whose passion for icebergs is infectious. Herzog speaks with this gentleman in his office, in front of a computer screen containing various glacial images. Typically this might be a dry, talking head interview, but instead it is the beginning of a passionate explanation of our unknowing relationship with icebergs. In a few sentences we understand why this science is significant. When we do hear a factoid, it stays with us because the relationship between our world and the icebergs has been established. "Our comfortable thought about Antarctica is over. Now we're seeing it as a living being, producing change—change that is broadcasting to the world, possibly in response to what the world is broadcasting down to Antarctica." This change is not hyped or made into spectacle, it is

calmly conveyed. We understand, simply, that there is a two-way relationship between our actions and the reactions of the earth.

It is critical to note several things by this point, minutes into Herzog's film. First, we understand that our main character is Herzog himself, yet in addition to Herzog we have met and will likely meet fascinating supporting characters. Second, we as the viewer have already been liberated from traditional story structure. This sense is palpable and seems fitting, not contrived. The film functions as a means to answer questions of *who* and *why* in Antarctica, and as such is unbound by the need for a proper ending or resolution. This is easy to accept from the beginning moments of the film because we do not receive a formal set-up of any sort, apart from Herzog venturing into this strange land. Herzog invites us to come with him, to remain in real-time with him and his discoveries. As Dancyger and Rush explain, all such structural choices have implications:

> Whether you opt for a three-act structure depends on how open-ended you want your story to be. If you see a story with a resolution, a three-act structure is called for. However, if you don't find a resolution necessary or interesting, you may opt for a two-act structure. If you do, realize that this choice has implications for every other element in your screenplay. To make a two-act screenplay work, you need gripping characters with whom we won't mind spending time (Dancyger and Rush 262).

If a filmmaker chooses, as Herzog does, to structure a film in a nontraditional way, he or she must be aware of what other elements an audience needs. We accept the alternative structure of this film because Herzog's discourse is rich. It contains ample material for emotional investment. Herzog develops interesting characters and provides us with unique, bite-sized biographies to ground the characters, and more importantly their

science, in relatable terms. The images we see offer a point-of-view, and we always know with whom we are "seeing".

In contrast to Herzog's film, the mainstream science episode, *Planet Earth: Ice Worlds*, alternates between a didactic structure of spectacle and three-act animal vignettes. *Ice Worlds* opens with an expansive wide shot of two polar bears crossing the Arctic. The frame continues to zoom out until the image takes on an airborne perspective. Sir David Attenborough's voice-over narration explains, "Both poles of our planet are covered with ice. They're the largest and most demanding wildernesses of all. Nowhere else on earth is seasonal change so extreme… and all life here is governed by that" (*Planet Earth: Ice Worlds)*. It is as though Attenborough is God, trusted to impart the unquestionable wisdom of how things are on planet Earth.

Next we fly over enormous, creaking icebergs. The aerial imagery is jaw dropping, but there is an immediate chasm between the viewer and the viewed, which signals the start of one-way, rather than interactive, engagement. The imagery is extraordinary, but it possesses an innate sense of *otherness*. We are looking at things we intellectually know are of our world, but the camera angles and perspectives are so amazing, and the resolution is so sharp, we start to feel like foreigners in our own land. Helicopter aerials and visions of Antarctica from space reveal sights born more of technological wonder than reality. We emotionally detach, and the film becomes science pornography.

As the aerials continue, ominous orchestral music plays on, and Attenborough's third-person voice-over further distances us: "The continent of Antarctica is as large as

the United States of America. Ninety percent of all the world's ice is found here." The imagery is now of the earth from space, showing the massive breadth of Antarctica in yet another perspective unavailable to the average viewer: "This frozen world is largely deserted, until the start of spring," we hear on the soundtrack. Suddenly, the music becomes light and upbeat, and the imagery shifts to a more "mortal" perspective, from towering icy spires to the speedy gait of a penguin running on ice. Our main characters in Antarctica are the penguins, and we enter the story knowing the power and magnitude of their awesome environment.

What might be most interesting is how gravely the film fails to connect the character of Antarctica to the penguins. The cause of this failure can be attributed to other discursive successes. "Meeting" Antarctica in massive aerials, often shot from space, easily convinces us of its awesomeness. But then we greet the penguins eye to eye, and the visual leap is too drastic. The cinematic choices that wow us also alienate us, making it difficult to connect the birds to the very continent they live on.

Further, the penguins are immediately anthropomorphized as Attenborough explains, "the penguin is in a hurry." The tactic of anthropomorphizing is a common technique whereby the filmmaker makes the foreign knowable. In art this mechanism of assigning human characteristics to nonhuman things, such as animals or objects, draws us in. Understandably, natural history filmmaking has long utilized this technique in an effort to galvanize our kinship and oneness with all living creatures. While effective in hooking the viewer in a purely natural history film, the power of *Ice Worlds'* macro structure of spectacle overwhelms any ground gained by its animal vignettes. The series'

discursive use of mind-blowing imagery, as well as the speed with which we leap from one environment to another species and back again, is precisely what prevents us from connecting with anything on an emotional level.

In contrast, as *Encounters at the End of the World* progresses, we meet scientists who study seal milk for insight into weight loss, and we head to various locations such as the diving facility where Herzog's friend filmed the opening underwater images. There we flank a diver on his last Antarctic dive. This particular biologist is emotional about his final day but is ready to pass the ball to the next generation of biologists. He talks of the violence in the micro world of underwater organisms in the Antarctic waters, and of his love of science fiction films, all of which offers the viewer an authentic glance into his character. As we follow this scientist underwater, because we feel that we know him, the images we see are personified. A human hand is tangible in each moment of the dive, even as we gaze at other worldly creatures in some of the coldest water on Earth.

Comparatively, in *Ice Worlds*, we find ourselves gazing at more familiar sights with less emotional connection. There is nothing we can attach to beyond the third-person voice of David Attenborough and the barrage of information we receive about animals in harsh environments. Although we know that more stunning cinematography is on the way, this ability to predict the next sequences of *Ice Worlds* creates a sense of boredom. Herzog, on the other hand, structures the cadence of his film loosely, liberating the viewer from the convention of act structure. At any moment we might wander from a scientist to a beloved frozen yogurt machine. We understand and accept that we are heading somewhere but we do not mind meandering

*Ice Worlds* has access to a similar feeling in its ability to hop from Antarctic penguins to Arctic bears. But within the freedom that the spectacle architecture provides, the filmmakers resort to traditionally organized discourse. Whether Antarctic penguins or Arctic bears, the animals' stories predictably follow the seasons and the lifecycle from one generation to another. But without a human to connect to, or a means of personal entry into the majesty of the images we see, *Ice Worlds* is a fleeting fancy into the most expensive cinematic imagery imaginable. The film creates the diegesis of a tour bus ride, whereby we can fog up the windows, but we are too busy looking at the sights to hear the science. It is not an issue of spectacle failing to make the film emotionally powerful; it is an issue of confused discourse that cannot decide how it wants to communicate the Earth's majesty.

Conversely, Werner Herzog invites us into an entirely different diegesis—an Antarctic road trip. *Encounters at the End of the World* is exciting precisely because we have no idea where we will end up. Characters dictate where we go and what we see. And Herzog uses these characters to paint the picture of Antarctica as he encounters it, both in word and in image. This invitation, into the lives and emotions of characters, has a profound effect on the digestion of science, for both an emotional connection and an empathetic response have been triggered. Further, we see scientists doing science rather than simply hearing about their findings once they are nowhere to be found. The idea that the absence of human beings somehow elevates the purity of the science, as is the seeming discursive opinion in *Ice Worlds,* is simply false.

In *Representing Reality*, Bill Nichols explains how the arrangement of filmmaker and filmed can combine to create an emotional framework for the viewer:

> The link between science and ethics may be sharpened by considering how the impression of a particular form of subjectivity attaching to the camera or filmmaker carries an implicit ethical code along with it. On the one hand the viewer registers and emotional tonality, and authorial subjectivity, from specific aspects of the selection and arrangement of sound and image. This tonality and subjectivity approximate a "structure of feeling." They are manifestations of a certain orientation toward the world and they prompt emotional response (Nichols 82).

Oddly enough, the *Planet Earth* series saves its very best for last. There is a section at the end of each episode called *Diaries*. These are behind-the-scenes shorts that show how the filmmakers got their shots and what obstacles and successes they faced in doing so. Nowhere does *Ice Worlds* have more emotional impact than when it lowers its veil and invites us to meet the filmmakers themselves. The discourse is finally simple and unconfused, and the diegesis is readily identifiable as simply the daily life of a nature filmmaker. We've taken the tour bus ride, we have been let out to stretch our legs and finally we can interact with the narrative and feel something.

"Wade" and "Fred" are the respective cameraman and assistant who spent a year filming what became the Antarctic penguin sequence in *Ice Worlds*. From the relative comfort of a Quonset hut-like structure, their mandate was to document the lifecycle of the Emperor penguins from mating to birth. Several weeks after the chicks are born, a blizzard hits the region. After a few days of unbearable weather, the filmmakers return to filming the birds. Fred(érique) spots a hole where a chick has been tucked away for days. She decides to intervene and rescue the chick from its icy cave. Attenborough explains:

"Film crews do not normally interfere with the course of nature, but having shared the penguins' six month struggle for survival, it was impossible for Fred to just sit back. The chick's mother looked on helplessly. Without help this chick would soon have starved."

Fred is interviewed on-camera and is visibly relieved by her decision to intervene. "It straightaway got a feed, so that's really good," she said, having just watched the mother unite with its chick. This was the most emotional and impactful sequence in *Ice Worlds*, the only moment when the film dropped its guard. This portion of the series was not in the body of the film, but in a DVD extra accessible only if one had the capability to watch it. Had the film been structured in the same way as this diary, for story and not spectacle, the compelling nature of man's interaction with Antarctica might have proved not only more moving, but more educational. Structurally, *Ice Worlds* forces us to move from point to point without cohesion. The discourse fails to convince us of either the gravity of the animals' narratives nor the "amazing-ness" of the place, because the film does not know how it wants to accomplish either goal.

In contrast, when Herzog comes into contact with penguins his experience is very different. He interviews a scientist known to be a man of few words. Herzog presses this scientist on issues of penguin homosexuality and penguin derangement. We are introduced to a particular penguin that repeatedly loses his way. Penguins are typically headed for one of two destinations: to the colony or to the water. But this penguin, no matter how many times he is rescued and put back on course, makes a break for the mountains every time. It is a seventy-kilometer trip to the base of the inland peaks, an area that will mean certain death for the penguin. Not only is this a scientifically

fascinating moment in *Encounters at the End of the World*, it is a metaphor for the people of Antarctica, and even for Herzog himself. Rather than simply getting somewhere, the journey of this penguin, and the inevitable challenges and likely fatal defeat ahead, remind one more of Jack Kerouac than David Attenborough.

These two distinctive films choose dramatically different means of communicating the same story of the dramatic *otherness* and extremes found in Antarctica. One would think that the film structured to reveal images and facts would be more compelling, but, as humans, we find that we require more from a film in order for it to be meaningful. Werner Herzog more effectively communicates the essence of Antarctica that both films are trying to relate because he taps into both the emotional and intellectual mechanisms of the viewer. As Grodal stated, "Emotions and cognition are two aspects of the way our embodied brains function" (Grodal 127). Filmmakers must balance the application of narrative and spectacle through discourse, to create a diegetic world, capable of touching us on multiple levels. There are no hard and fast rules as to how a filmmaker achieves this 'teach and touch' end, but the consideration of discourse, with a clear understanding of the mental and emotional desires of an audience, provide not only a means for thoughtful analysis but provide the filmmaker with a promising starting place.

# FILMMAKING IN KAZAKHSTAN

This triangular relationship between narrative, spectacle and discourse, buoyed by advances in both cognitive theory and brain science is not only theoretically important, it is also a practical guide and goal in my filmmaking. In 2006 I received a Fulbright scholarship to make a film about nuclear nonproliferation in Kazakhstan. I had spent two years developing a documentary film on the history of the Soviet Union's nuclear test site, located in Kazakhstan, and the nonproliferation threats its unguarded perimeter now pose in the 21st century. Although armed with the Fulbright scholarship, an invitation to be a visiting researcher at the Center for Nonproliferation Studies in the city of Almaty, the support of Ted Turner's Nuclear Threat Initiative and constant help from the Embassy of Kazakhstan in Washington, D.C., I quickly realized that this film would be impossible to make for several logistical and financial reasons involving not only the government of Kazakhstan but also the U.S. Department of Defense.

One morning, I met a former film student from Moscow, and together we decided to co-write a short fiction film. I realized that this chance meeting offered me the opportunity to be true to the spirit of the Fulbright program, as well as to Kazakhstan, by creating a film whose simple story could reveal emotional truths beyond the Kazakh border. For a nation struggling to communicate its identity, and for my Kazakhstani friends who had no other means of learning the process of filmmaking, this endeavor seemed truly meaningful.

This was my first opportunity to direct a complete fiction piece. In two months I was set to leave Kazakhstan, so I had a tight window in which to produce and shoot this

film. But most importantly this chance meeting and subsequent filmmaking process provided me with the opportunity, within the framework of a nonfiction film program to explore issues central to this paper.

My film is about a cab driver whose after-hours hobby is curing his loneliness with the voices of perfect strangers. He is not a bad or dangerous person—he is just lonely. Estranged from his family, he is trapped by the simple technology of an automobile and a telephone. One evening he decides to prank call strangers whose phone numbers he finds on Kazakh currency notes only to find that the estrangement he feels is universally human. I used action to develop character and restricted dialogue to characters other than the protagonist. Focusing on camera language, I designed shots to communicate a sense of surveillance and placed a significant amount of black space into the frame. When the protagonist receives a phone call, he trades places with the individuals he has prank called. I supported this twist by filming him as I had filmed the other "receivers" up to that point. I designed the structure of the film to keep the audience captivated, while I measured out small fragments of information to build a subplot that would eventually converge with the main plot. I shot documentary-style images around the city to build a sense of place and a sense of cultural character.

The practical application of this triangular relationship between narrative, spectacle and discourse was critical in my approach to this film. This is not a story of spectacle but rather an intimate view inside the life of a lonely individual. The narrative does not allow for any dialogue from the protagonist until the end of the film. This was important in sustaining audience curiosity and mystery, an attempt to leave space for the

audience to decipher the story. I emphasized the feeling of Kazakhstan and the mood of the protagonist by using documentary-style cinematography of the city. I wanted this footage to complement the more structured interiors, where the protagonist makes his secret calls.

As the calls grow more intimate and the "receivers" became more emotionally vulnerable, I utilize more intimate camera language. The film was intensively designed, from each word of dialogue to each edit to each frame. In order to tell this particular story I knew that hitting the appropriate notes was critical—I needed to hook the audience with an intriguing character. I needed to hook them with the sights and sounds of Kazakhstan, and I needed to create the space for tension and release to keep the audience watching. I could not lean on the dialogue or the action, nor did I have spectacle to run to. Instead I turned to character development, score, and camera language, and combined all of these elements into discourse. I knew that emotional connection was paramount, but what I learned was how to design and apply the tools of discourse to achieve that connection.

In Kazakhstan, I responded to my situation and made a film whose demands on me mirrored the demands placed on any filmmaker in any genre. Understanding the relationship between narrative, spectacle and discourse helped me learn how to create a mood and an emotional feeling. As a filmmaker, I feel it is critical to focus on the human connection, be it the story of a cab driver in the foreign city or the vulnerability of a nuclear test site on the Kazakh steppe—both protagonists are isolated by technology and misunderstood. Both stories can only be realized through the careful, discursive application of narrative and spectacle.

Perhaps too much emphasis is placed on genres and other divisive concepts in film. Emotionally connecting with an audience seems to be one clear way in which these barriers are transcended because its importance and aim is universal, across all categories and divisions. This discovery enabled me to hone my discursive skills in the fiction genre and its implications for developing innovative modes of discourse in traditionally "nonfiction" genres. In addition, it moved me to investigate the role discourse plays in both film analysis and filmmaking.

# CONCLUSION

The discipline of film studies is often limited by its own obsessions. Approaches designed to illuminate how we view films, and filmmaking, often limit our thinking, instead. It is not surprising that the analysis of an extraordinary medium presents endless arguments, debate and inspires the critic or theorist to narrow the field of view in order to make it manageable. But like a great mind, the discipline of film studies flourishes the most when it remains open. In seeking an academic and theoretical basis for the gut-level notion that films affect us both emotionally and intellectually, it is critical to chart an interdisciplinary course.

Advances in cognitive theory and neuroscience, when applied to the analysis of science documentaries, change the way we do film studies. We can penetrate analysis from a wider variety of angles and apply more nuanced strategies of examination. The inclusion of discourse in the narrative vs. spectacle argument, and thus the creation of this triangular analytical relationship, is merely one way of enhancing our ability to study the effects films have on an audience, on the future of the medium, and on aesthetics as a whole.

# REFERENCES CITED


Aristotle. *On Poetics*. Trans. Beth Benardete, Michael Davis. South Bend: St. Augustine's Press, 2002.

Bernard, Sheila Curran. *Documentary Storytelling for Video and Filmmakers*. Burlington: Focal Press, 2004.

*Blue Planet*. Dir. Alastair Fothergill. Perf. David Attenborough. BBC, 2001. Discovery Channel, 2001. DVD. BBC Video, 2002.

Bordwell, David. *Narration in the Fiction Film*. London: Methuen & Co. Ltd., 1985.

Bousé, Derek. *Wildlife Films*. Philadelphia: University of Pennsylvania Press, 2000.

Brooks, Peter. *Reading for the Plot: Design and Intention in Narrative*. Cambridge: Harvard UP, 1992.

Dancyger, Ken and Rush, Jeff. *Alternative Scriptwriting*. Newton: Butterworth and Heinemann, 1995.

Decety, Jean and Jackson, Philip L. "A Social-Neuroscience Perspective on Empathy."

Eisenstein, Sergei. *The Film Sense*. Orlando: Harcourt Brace & Company, 1942.

*Encounters at the End of the World*. Dir: Werner Herzog. Think Film, 2007.

Gunning, Tom. "The Cinema of Attractions: Early film, Its Spectator, and the Avant-Garde," in Thomas Elsaesser, *Early Cinema*. London: British Film Institute, 1990.

Hoffman, M.L. *Empathy and Moral Development*. Cambridge: Cambridge University Press, 2000.

Jaffe, Eric. "Mirror Neurons: How We Reflect on Behavior." APS Observer. May, 2007.

Kohut, Heinz; Goldberg, Arnold, and Stepansky, Paul E. *How Does Analysis Cure?* Chicago: University of Chicago Press, 1984.

*Life*. Perf. Oprah Winfrey. BBC, 2009. DVD. Polyband, 2010.

Nichols, Bill. *Representing Reality*. Bloomington: Indiana University Press, 1991.

*Oceans*. Galatée Films, Pathé, 2009. Disney Nature, 2010.

*Planet Earth: Ice Worlds*. Perf. David Attenborough. BBC, 2006. DVD. BBC Warner, 2007.

Seger, Linda. *Making a Good Script Great*. Hollywood: Samuel French Trade, 1987.

Staiger, Janet. "Hybrid or Inbred: The Purity Hypothesis and Hollywood Genre History." *Film Genre Reader III*. Ed. Barry Keith Grant. Austin: University of Texas Press, 1986.185-199.

Stein, Edith. *On the problem of Empathy*. Washington: ICS Publications, 1989. (Original work published 1917).