THE PSYCHOLOGY OF CAMERA OBSERVATION:

HOW THE CAMERA AFFECTS HUMAN BEHAVIOR

by

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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

March 2021

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ABSTRACT

This paper explores the influence of an observational camera on human behavior, particularly in documentary films. Whether it is a surveillance camera that represents the eyes of an authority figure, or a camera with a human operator, the presence of an observer impacts our behavior. The paper hypothesizes that the presence of a camera activates the same pathway in the brain as when a person senses that they are being watched. The paper uses observations from several documentary films, reality television shows, and the author's documentary film as supporting evidence in exploring this concept.

HOW THE CAMERA AFFECTS HUMAN BEHAVIOR

Most everyone can recall a moment in their lives when they were watched or followed. The “feeling of being watched” is not just a figment of the imagination; it comes from a unique brain pathway that is designed to protect humans from possible danger. Researchers hypothesize that the feeling of being watched, as well as the brain’s response pathway, likely originated in ancient times when humans had to survive in harsh conditions and were threatened by predators. According to Oxford neuroscientist Harriet Dempsey-Jones, the human brain has an entire neurological network that is dedicated to wondering if people are staring at them. In every moment of our day, our eyes and subconscious are aware of thousands of movements in our peripheral vision that we do not consciously detect (Neilson). This aspect of the brain has not changed despite the diminished stress of daily life.

In each moment of everyday life, there is a significant amount of brain activity that occurs underneath the surface; the human mind picks up on and processes far more from our field of vision than what we are actively aware of (Shrira). When we sense that we are being watched, it is often because there is something that occurs in our peripheral vision (Neilson). Specifically, eye contact is a highly meaningful and primal part of the human experience, so the potential for eye contact is a signal to the human mind that something important or potentially threatening is about to happen (Shrira). This is why the specialized pathways in our brain light up when something is even slightly in our peripheral vision, even if we do not remember seeing it – like when we sense that we are being watched, look around, but cannot find the source.

Because humans are highly sensitive to direct gaze from other humans or animals, it is pertinent to consider whether or not the camera triggers the same feeling of being watched. If humans have a specialized system within the brain that is stimulated when one is being watched, it is reasonable to hypothesize that video cameras activate the same brain pathway as an intentional gaze from an animal or a stranger. If so, this would cause an individual to change their behavior when their brain is aware that they are under observation.

This paper explores the effect of camera presence on human behavior, using observations from scientific research, documentary films, reality television, and personal video diaries. Specifically, it will investigate how subjects change their behavior when they are filmed through an analysis of my own documentary, SIRIUS-19, and the documentary Grey Gardens. Additionally, this paper studies the observational-style footage of the documentary Ex Libris: The New York Public Library and the reality-drama series Real Housewives to question the effects of long-term observation on the subjects' behavior. This paper also uses the concept of the video diary and the found footage of Grizzly Man to explore the conflict of the curated and uncurated selves on camera. Whether the camera was installed as a surveillance tool, used by a documentary filmmaker to follow a story, or relied upon as a personal diary and nonjudgmental listener, this paper explores whether the "eyes" of the camera inspire their subjects to behave as a better version of themselves. Ultimately, the camera can be thought of as a third-party observer that causes individuals to modify their behavior to avoid negative judgment from others and embody the ideal version of themselves.

There have been several psychological studies regarding the influence of surveillance cameras on social behavior. Researchers in the Netherlands designed a study that investigated three different "framings" of the surveillance camera: presenting the camera as the medium through which an intimidating authority watches a participant; presenting the camera as a neutral, non-intimidating viewer; and watching oneself via a camera (Jansen, et. al.). In the study, researchers observed psychology students during a test to determine whether or not a surveillance camera would affect cheating, and used signs to announce the presence of the camera in either friendly or unfriendly terms. In both unfriendly and friendly camera scenarios, a greater number of individuals reported feeling like they were being watched, and the researchers concluded that the presence of surveillance cameras resulted in reduced dishonest behavior and more altruistic behavior (Jansen, et. al.). Ultimately, the study suggests that the presence of a surveillance camera inspires individuals to be on their best behavior because they fear judgment either from an authority figure or from other members of society. The study also implies that the camera causes individuals to modify their behavior.

The researchers of this study also questioned the effect of the cameras on interpersonal behaviors, investigating whether or not the presence of other people affected an individual's actions. They discovered that people changed their behavior in order to appear more favorably in the eyes of others when there was a camera nearby. Additionally, the researchers discovered that even a simple picture of eyes on a sign or on a wall influenced people to have greater self-awareness and make more ethical decisions (Jansen, et. al.) It is therefore reasonable to conclude that individuals make more ethical

decisions in the presence of a surveillance camera, or watchful eyes, because it triggers the same brain pathway as the feeling of being watched. The brain on heightened alert prompts an individual to make principled decisions to avoid negative judgment from others.

My documentary film, SIRIUS-19, demonstrates how documentary subjects change behavior under the camera gaze. SIRIUS-19 was a four-month space simulation mission that took place in Moscow, Russia, in 2019. The crew simulated that they were living in space for four months and coexisted in a mock spacecraft, though they never left the ground. The mission was a joint project between NASA and Russia's Institute for Medical and Biological Problems and simulated a lunar landing mission with a mixed Russian and American crew. The main purpose of the mission was to observe how the participants performed under extreme isolation for one-hundred and twenty days. The six crewmembers lived in closed quarters without natural light and fresh air, and shared a living environment with minimal amenities. Using surveillance cameras and a special device that tracked the participants' movements, outside researchers closely observed the participants through the duration of the mission in order to understand how the participants' psychology changed with isolation.

The SIRIUS-19 participants performed many different tests and scientific experiments throughout the mission to track their crewmembers' changes in fitness and physical health. However, the main purpose of the mission was to understand whether or not humans are capable of surviving together on a long-duration mission to the moon or Mars, and to determine which personality traits are most important to assembling a crew.

SIRIUS-19 also had a Mission Control that utilized surveillance cameras to monitor and record the crew's actions twenty-four hours a day.

The SIRIUS-19 mission participants knew that they were being watched and closely observed, and signed agreements about it before beginning the mission. There were surveillance cameras in every module of the Ground-Based Experimental Complex, except for the crew's private quarters. Mission Control and psychologists monitored the crew's movements for the duration of the mission to see if they could make conclusions about how each crewmember related to one another. After the mission, psychologists watched the footage of all four months over again, manually marking the number of times each individual crewmember interacted, hour by hour, day by day.

High-stress situations, such as the sleep deprivation experiments and the lunar landing mission, were opportunities for potential conflict amongst the crew. The SIRIUS-19 crewmembers were extremely limited in their abilities to communicate with loved ones and find out news about the outside world, which meant that they had to solve any emotional problems with minimal external support. They were only able to send and receive emails, and psychological researchers read all of the incoming and outgoing messages between the crewmembers and their friends and family. According to SIRIUS mission specialist Anastasiya Stepanova,

> "Psychological Support mostly sent us videos. That was it. And we had a phone call once every two weeks, or one month, when they'd ask what we wanted to get from your parents on the new cargo ship and how we were feeling. But it wasn't like you go to a real psychologist and talk about your feelings. We also sent emails through Psychological Support. You couldn't send an email directly to your family, so you don't know if somebody was reading them or not. (The psychologists) say they don't, but you can't really express everything in these emails because it's directed from you to the

> recipient. I was more careful in email. I didn't write as freely as I normally was. But I think it's normal for every person to do that" (Stepanova).

Anastasiya's description of curating her communications to friends and family members while in the mission suggests that she modified her behavior to avoid negative judgment from Psychological Support and Mission Control. A lack of sleep or living in extremely close quarters pushed the participants' patience with one another to the limits. Their personal room was the only place where they could express their emotions privately. In her post-mission interview, SIRIUS participant and crew doctor Stefaniya Fedyai described dealing with emotions in an enclosed space:

> "Of course, we had various moments where there was a misunderstanding or something was said and then people didn't understand each other...And in isolation there was a feeling of things getting monotonous, but the Psychological Support team advised us on what to do. I saw how people would get frustrated and then get quiet. There weren't any fights or conflicts or anything -- you just stay quiet and if something is really bad you go to your room and deal with things in your room. I think that I was stressed because I didn't have regular communications with my friends. And of course, when you write a letter you unload all of your negative emotions there. So, I had to wait; you sit still and stay quiet and wait, because the most important thing in that moment is to remember that the conflict isn't very big. Maybe you'll have it tomorrow or not, but in the end our personal feelings aren't very important. And if you're frustrated with someone, you can wait a few hours and then like them again. Emotions are dynamic" (Fedyai).

By sitting still and waiting for her emotions to go away, Stefaniya was able to prevent conflicts from escalating.

Additionally, Stefaniya explained that part of her desire to control her emotions came from her awareness of being watched by Mission Control:

> "...but if Psychological Support sees that there is a problem, then it will be in your record forever. And they won't be able to tell who was right and wrong, they'll just see that there was a conflict and that you were involved, along with someone else. So, the most important thing that we figured out was to keep all of this inside of us so that no one would see anything. I don't know how good it is for psychology to hear this point of view...and I think it would be interesting to put this on the internet because usually in a show they're supposed to put everything out there, all their emotions and what was happening, but we had the opposite, if we had bad feelings, we tried to control them. In the worst case we'd talk one-on-one very quietly so that earth wouldn't interfere" (Fedyai).

Stefaniya describes the experience of being watched as a "reverse reality television show." In reality television, the filmed subject's life is wide-open: all emotions and dramatic interactions are on display for the entertainment of the audience. However, in the SIRIUS-19 mission, the cameras provoked the opposite reaction. All of the SIRIUS participants fully consented to every aspect of the mission, including being filmed, but none of them wanted to be seen as the weak link in the mission. While Mission Control had surveillance in all of the rooms and hallways of the simulation, they chose not to record audio so the crew could converse freely. Without the context of the audio recordings, Mission Control and the Psychological Support team relied entirely on visual information to make conclusions about the crew's interpersonal relationships. In order to display a calm atmosphere, as Stefaniya explained, the crew had to modify their body language, rather than their words, to avoid negative judgment from Mission Control.

SIRIUS-19 Chief Psychologist Vadym Gushin explained the purpose of surveillance before the mission began:

> "For the first time at the Institute for Biomedical Problems, we're going to use a lot of videos. Normally we have them only for safety reasons, and we do not record them. Now we have the idea of many recordings of crew

> interaction. Almost every minute except in the private zones...sanitary zone, personal chambers, they are all private, and no video recordings there. But if you are doing your research, if you are spending your free time in the big room there, that's all video recorded. And sometimes you combine it with audio recordings. By the way, that is a good example of cross-cultural difference. For Russians, spying, as we call it, is not very good...we don't like spying, we hate it. And people do not agree on that, but this research, for the sake of science, there will be a lot of audio recordings. Including in the off-normal situations; for most of them, the crew will not be prepared, and it will be interesting how they will interact under stress. So, we're going to accumulate a lot of behavioral data. Because video and audio, there's a difference from testing. This is natural behavior. I always prefer natural behavior. Because it's very clear how to answer the question properly, to create a positive image. But in reality, people are different, so we're going to see what they are. Who they are" (Gushin).

Prior to working on SIRIUS-19, Gushin stated that he had worked on every isolation mission that had ever occurred in the world, from Hawaii to the Arctic, and also designed psychological experiments onboard the International Space Station. After the mission, he instructed the Psychological Support team to count every crew interaction of the four-month mission by hand.

By reviewing the mission footage and paying close attention to crewmembers' body language, eye contact, and communications, the SIRIUS Psychological Support team was able to piece back together every moment of potential conflict or strained interactions during the mission. The surveillance footage -- and the observers that analyzed it -- ultimately revealed the interpersonal interactions that the crewmembers were trying to control or conceal. In other words, Psychological Support's use of close observation in their post-mission analysis allowed them to infer the relationships between the crewmembers, breaking through the "reverse-reality television" façade that Stefaniya described.

The fact that the SIRIUS-19 crewmembers admitted to controlling or modifying their behavior for the camera shows that the presence of surveillance cameras impacted the crew's interactions. After the mission, all six crewmembers in interviews reported that they got along very well and that they had minimal conflict. Perhaps it was the presence of the camera that prompted the crew to be on their best behavior: they knew that they were being watched and observed, and so each one behaved as the person they wanted to be during the mission. For participants Anastasiya Stepanova and Reinhold Povilaitis, the motivation to be on their best behavior came from their dreams of becoming a cosmonaut or an astronaut. Behaving badly on camera would prove to Mission Control that they were not fit to pursue their dream of going to space.

Understanding that humans adjust their behavior when they are being watched, either by a real person or a surveillance camera, explains why individuals act differently when they are filmed on a video camera. The Observer Effect, also known as the Hawthorne Effect, is a psychological concept that states that people will modify their behavior when they know that they are under observation (American Psychological Association). The Hawthorne Studies, conducted from 1924 to 1932, discovered that workers were more productive when they were under observation, and have since been adopted by psychologists as a tool to understand human behavior when an individual is being observed and evaluated by a professional (American Psychological Association).

The Observer Effect reveals that being watched provokes different, and often more ethical, behavior. It also prompts the question of whether or not the Observer Effect impacts observational-style documentary films. An observational-style documentary

emphasizes the importance of uninvolved, “fly-on-the-wall” cinematography, and filmmakers edit the film to capture the feeling of what they observed. Though the intention of observational filmmakers is to capture their subjects acting in the most spontaneous way possible, the watchful eyes of the camera motivate the subject to be on their “best behavior.”

Grey Gardens, a documentary produced by Albert and David Maysles in 1975, is an example of how observation with a camera impacts a person’s behavior. To the younger Edith (“Edie”) Beale, the presence of an audience (the Maysles) and the camera (a potential audience) breaks the monotony of her everyday life with her mother. Edie’s life is very isolated; she does not appear to have much contact with the outside world. The Maysles brothers use long takes, handheld camera footage, diegetic sound, and conversations between Edie and her mother Edith to make the film look like it was put together without any opinion or “creative treatment” from the filmmakers. Grey Gardens appears to offer a “window on the world,” but in reality, Edie’s performances for the camera show that the Maysles’ presence was more than a “fly on the wall.” In front of the camera, Edie becomes the person that she wishes she could be: she is no longer a “nearly-penniless hermit living in squalor” (Edwards), but becomes a youthful and fashionable entertainer who lives a fascinating and unusual life.

One of the most memorable moments in the film is when Edie performs a flag dance in the foyer of her dilapidated home. Dressed in small black shorts and a tight black turtleneck, with a chic red scarf wrapped around her head and a small American flag in her head, she is the image of youth and enthusiastic patriotism. She makes a

poster: “The Great Dancer, Little Edie Bouvier Beale” and makes a grand entrance down a creaking staircase. While dancing, she teases the camera, coming close and then dancing away, with a big smile on her face (Grey Gardens). If the Maysles brothers had not been in her home, she probably would not have dressed up and danced. But for Edie, the camera was an opportunity to escape from her mundane life. Perhaps the camera was a way for her to process and express desires that she had held inside of herself for years.

Despite the fact that individuals tend to modify their behavior while under observation, it is possible to overcome the Hawthorne Effect. This suggests that it is possible to make observational-style films that accurately reflect the true nature and behaviors of human subjects. According to researchers from the University of Edinburgh’s London Centre for Social Studies, “the Hawthorne Effect is one of the greatest challenges research observers face when gathering data and has long been described as the ‘Achilles heel’ of participant research” (Oswald, et.al.). In order to navigate and overcome the Hawthorne Effect, the researchers found that the observer had to spend a significant amount of time with the participant in order to make them feel comfortable enough to forget that they were under observation. In this study, the researchers observed and evaluated a workplace in order to reveal the employees’ true attitudes about their working environment (Oswald, et. al.). They concluded that “it is important that the researcher becomes successfully immersed in the social setting by gaining trust and making the workers feel relaxed and unthreatened” (Oswald, et.al.).

Though it is apparent that Little Edie modified her behavior for the camera in Grey Gardens, it does not mean that the Hawthorne Effect negatively impacted the film.

Little Edie appears relaxed and unthreatened in the film and is excited by the presence of an interested observer. If she had felt uncomfortable, she probably would not have wanted to perform for the camera. Instead, she seemed excited about the encouragement to appear as the person that she wished she could be. It is interesting to note that Albert Maysles was a psychologist before becoming a filmmaker. In an interview with the journal Border Crossings, he explained:

> "I guess psychology can get in the way, but it gave me the advantage of really wanting to discover what is going on rather than setting my mind on what I was going to get. I'm a person whose only point of view is not to have a point of view. I think that is very important...the eye behind the camera should be the eye of a poet. It's a sensibility where you don't desire to change anything, but you find things that people who are not artists would not even notice and, of course, you frame it in such a way that you get the essence…I know this sounds like a contradiction but somehow what I do is both objective and subjective. In a way that emotional involvement gets you that much closer to what is really going on, as long as you don't tailor it with a point of view. My brother and I always agreed on everything, which was unusual. We had the same determination to get much as you could the real thing and to not impose ourselves on the situation" (Enright).

While it is clear that Edie was performing for the camera throughout Grey Gardens, perhaps it was the Maysles' desire for emotional involvement with their subjects that revealed this aspect of her personality. Perhaps they found Edie's desire to perform to be the most engaging part of their film, encouraging Edie to express herself without inhibition. Perhaps her performance in front of the camera was actually an expression of her truest self, the person that she wished she could be in everyday life: exciting, creative, talented, and entertaining. In Edie's case, adjusting her behavior under observation was a positive, rather than a negative, experience for her, and the camera made her feel that she could be the person that she wished she had become.

Another memorable scene from Grey Gardens shows Edie dressed to the nines in high heels, stockings, a brown skirt, and a turtleneck sweater in the backyard. “This is the best thing to wear for the day”, she says, referring to the skirt. It is tight and short and brown, and the fabric is not quite long enough to wrap around her hips, so she has secured it in place with safety pins. The person behind the camera, presumably Albert Maysles, who usually handled the camera while his brother recorded the sound, is minimal in his responses: “Okay”. He tilts up and down Edie’s outfit. “This is the best costume for the day,” she repeats. Referring to her outfit as a costume is an interesting choice of words: she is acknowledging that she is dressing up and views the camera as an opportunity for creative performance. She then starts to whisper: “Mother wanted me to come out in a kimono, so we had quite a fight” (Grey Gardens).

Edie’s acknowledgement of arguing with her mother sheds her “costume of the day” in a different light. The opportunity to dress up for the camera is a deviation from her ordinary life, an escape from her isolation. The Maysles effectively captured the essence of Little Edie’s desires and dreams, revealing something deeper about her personality. If she had ignored the camera rather than performing for it, the audience may never have understood her deep longing for recognition and companionship.

Frederick Wiseman is another American documentary filmmaker who has long sought to overcome the Hawthorne Effect. He has filmed, edited, and produced many successful documentaries that attempt to reveal the characteristics of human subjects and institutional operations through extensive observation. He carefully edits his films to reveal the subtle humor and mundane aspects of different environments and subcultures

that could have been missed by a less-patient observer. Unlike the Maysles Brothers, Wiseman seeks to distance himself from his subjects in order to avoid emotional involvement. While the Maysles brothers stayed in touch with their subject for years after they observed and filmed them (Enright), Wiseman told The New Yorker, "I don't like…'observational cinema' or 'fly on the wall' cinema. I like to think I'm somewhat more conscious than a fly. A documentary film is made up of thousands, if not hundreds of thousands, of choices. It requires an effort at thought...I'm not there to make friends or intervene but I'm there to make a movie" (Brody). Wiseman's ability to patiently watch his surroundings allows him convey the spirit and feeling of the place to his audience. His emotionally-detached filming style and careful editing invites viewers to make their own conclusions about what they observe.

One of Wiseman's recent films, Ex Libris: The New York Public Library, is an interesting example of editing choices that create a feeling of a place. Wiseman films several public events at the library and often focuses on the faces in the audience. The audience members are watching the event, so they do not pay attention to Wiseman and the camera. Wiseman captures their facial expressions during the events, showing everything from fascination to boredom. The film often cuts quickly from face to face in the library, revealing the importance that Wiseman places on the types of people who visit the library, rather than just the physical space (Ex Libris: The New York Public Library). However, he chooses shots in which the people do not appear to even notice the camera, implying that he is actively trying to avoid a situation in which people try to modify their behavior for him. In an interview with PBS, Wiseman said that he spent

twelve weeks in the library, filming and observing. When asked about not following one character more than another, he explained,

> "If I made a film following the president of the NYPL, it wouldn't be a film about the library. He would become the subject of the film. I'm not saying that you can't make an interesting film focused on him. This is not the film I chose to make. My films are mosaics, the result of thousands of choices designed to giving an impression of the day-to-day activities of the place. That is the subject of the film. The final film is impressionistic, never definitive or comprehensive" (Wiseman).

Wiseman captures the spirit of a place through observation and fascination with everyday life, but never overwhelms his viewers with information or defines anything for his audience. His opinions are subtle; he clearly likes and respects the New York Public Library, but still invites the audience to sit and observe with him. He once said in an interview, "I think this objective-subjective stuff is a lot of bullshit. I don't see how a film can be anything but subjective" (Levin). Wiseman's commitment to spending so much time in the place where he films suggests that he may have overcome the Observer Effect: his subjects do not appear to change their behavior for the camera because he has spent so much time in their environment. However, it is more likely that he specifically edited his footage to remove moments in which the subjects changed their behavior for the camera so that he could try to show his audience what he felt like in that space.

Reality-drama television is another example of observational footage that may or may not be impacted by the Hawthorne Effect. Like Wiseman, reality television cinematographers spend a lot of time with their subjects, following their day-to-day life for weeks on end. This level of involvement suggests that it is enough observational time to overcome the Hawthorne Effect; for example, the subjects of the Real Housewives

series often treat others unkindly, implying that they no longer care about whether or not an audience will judge them negatively. However, the subjects' lives are filled with so much interpersonal conflict that it is unclear whether or not it is a performance for the camera. In reality-drama television, interpersonal drama is what makes these shows so successful with audiences. Research has shown that viewers are attracted to reality-drama television because of Social Comparison Theory, which posits that watching other peoples' conflict-ridden lives triggers a polarizing response in viewers, making them feel either significantly better or worse about themselves (Lewis).

Because of Social Comparison Theory, audience members who are more sensitive to judgment from others are more likely to be influenced negatively by reality-drama television, such as Real Housewives, that place a heavy emphasis on appearances (Lewis). In the context of reality television, "there is evidence that directional comparisons become increasingly relevant in times of self-image enhancement and threat," Lewis explains. "Individuals experiencing a situation of self-image enhancement may be more likely to select upward comparison standards in order to maintain or improve their self-perception" (Lewis). Viewers compare themselves to reality television stars and then make conclusions about themselves and how they fit with the rest of society (Lewis). At the same time, the subjects of the reality-drama television show could also be modifying their behavior to avoid negative judgment from the audience, creating an unusual dynamic in which the show's subjects and the audience are continuously modifying their behavior.

In an episode of Bravo's latest Real Housewives series, Real Housewives of Salt Lake City, housewife Mary describes her rejection of childhood Mormonism and conversion to Islam in an interview. The episode then cuts to a scene in which Mary asks her teenage children about sex, sexting, and whether or not they've ever kissed anyone. The tone that she asks her children such intimate questions is both uncomfortably direct and slightly forceful -- an unlikely way of speech for someone who was raised as a Mormon and adopted Islam. Her teenage children shy away at the questions and answer them quietly, appearing embarrassed. Everything about the scene at the breakfast table looks unnatural and constructed: Mary's tone of voice, the children's' embarrassment at the topic of conversation, and the family sitting on barstools in a row instead of across from each other (Real Housewives of Salt Lake City). Despite the cinematographers' daily presence in the subjects' lives, the scene still implies that Mary is changing her behavior for the camera, or that she is encouraged to manufacture drama as part of the show.

Many people have wondered if reality television shows such as Real Housewives follow a script, because the behavior that they observe in the episodes differ so greatly from typical interpersonal interactions. On Reddit, a user asked the Reddit channel r/realhousewives, "what RH moment do you think was the most scripted/acted?...any other scenarios that were just too good to be reality?" (Reddit). This prompts the question of what "too good to be reality" means. Made-for-entertainment television shows are built on drama, chaos, and glamour that is opposite from most everyone's understanding of reality. Additionally, the Real Housewives cast members are paid to participate in the

show. However, it appears that many people who watch these shows still question everything within them and accept what they see as fake rather than real, suggesting that the subjects modify their behavior for the camera in accordance with the Observer Effect.

It is possible that the Real Housewives participants do not just modify their behavior for the camera: like Little Edie in Grey Gardens, the subjects have a surprisingly isolated lifestyle. Another Reddit user on r/realhousewives asked, "people who have been on reality TV shows, what's rigged and what's not?" on the Ask Reddit channel. It prompted six thousand responses from people who had or knew someone who had been involved in reality television:

> "I worked on a certain MTV dating show where one of the contestants tried to escape the house in the middle of the night, and one of the Production Assistants had to tackle him in the front yard and drag him back into the house. It's like prison, they are completely cut out from the outside world (no computer, books, phones, watches) and they are fed mostly booze. They all go insane. Also, if the show doesn't air, they don't win their prize money. This is a standard for all competition reality shows" (Reddit).

Perhaps participants on reality television shows act more for the camera because of a feeling of isolation, like Edie in Grey Gardens. In Real Housewives, participants must work six days a week for fourteen weeks in addition to their regularly-scheduled job (Chilton). With such a schedule, they most likely feel isolation from the outside world, aside from their involvement in work, their family, and their close circle of friends. The filmmakers do not appear to emotionally involve themselves in the participants' lives, so it is thus pertinent to question whether the subjects in Real Housewives act for the camera out of a deeper feeling of isolation, or whether fourteen weeks is long enough for the filmmakers to overcome the Hawthorne Effect. Because the Real Housewives

participants often do not act with the highest ethics, gaining energy from unkind interpersonal interactions, it suggests that the cinematographers are capturing behavior that is not modified for the audience. However, it is also possible that the participants are modifying their behavior for the audience as a response to a deep feeling of isolation.

In the SIRIUS-19 mission, participants Stefaniya Fedyai and Anastasiya Stepanova also used the camera to make video diaries about their time in isolation. Because Psychological Support read and reviewed every piece of information that was going in and out of the mission, they could not be their authentic selves. Their video diaries subsequently do not reveal anything particularly insightful about the participants' genuine emotional states in any given moment, which is why I decided to not use any of the footage when I edited my film. In an environment without surveillance and close observation from Mission Control, however, it is possible to use the camera as a tool for psychological support in the form of a "video diary". In a video diary, the camera takes on the form of a nonjudgmental listener that holds space for its user.

A video diary is a recording or series of recordings made over time that allows the user to express their emotions and experiences. It allows the user to freely express themself without negative judgment and has recently been studied as a tool for psychological support in isolated settings. Like reality television, the video diary represents another paradox: when using the camera as a nonjudgmental listener, the user is invited to be their most authentic self, rather than their "best" self. However, the surveillance camera studies suggest that humans are inclined to modify their behavior when they feel like they are being watched. Scientists have only recently begun to

research the video diary to understand why it has been such a popular way for people to express themselves. One of the most commonly cited studies on video diaries followed five women in the United Kingdom who had recently given birth and asked them to record videos describing their everyday experiences (Taylor, et.al.). The researchers found that the new mothers experienced a tremendous relief by talking "to someone" without interruption or judgment and recommended that video diaries be incorporated into postnatal care as a therapeutic tool (Taylor, et.al.).

The concept of the "video diary" is popular on YouTube channels. Many people who record interesting or mundane aspects of their everyday life have acquired thousands of interested followers. A particularly popular genre of video diary is the accounts of "through-hikers", individuals who have backpacked thousands of miles on long-distance trails, such as the Pacific Crest Trail, Continental Divide Trail, and Appalachian Trail. These through-hike experiences are another form of extreme isolation, as participants spend months in the wilderness, away from civilization. The hikers film walking "interviews" between themselves and the camera, reflecting on the day's travel, obstacles, memorable moments, and things that they are looking forward to.

Through-hiker Mari Johnson has one-hundred thousand subscribers to her YouTube channel, and posted 35 episodes of video diaries as she completed the entire 2,600 mile walk from Mexico to Canada. Like reality television, Mari's journey through an extreme and isolated environment is fascinating because life in a wilderness environment is drastically different from everyday life in civilization. Johnson hikes the Pacific Crest Trail with her husband, who is often seen in the background of the footage,

but rarely speaks himself. The journey is in Mari's own words, but she uses many jump cuts, as is common on YouTube, adjusting her language to create a curated version of herself and to edit her own reality. Her use of jump cuts in her edited video diaries become a constant reminder that viewers were not there in that experience, and that she edited her videos. Whether or not she modified her behavior for the camera, she uses editing to present an idealized version of herself to her audience.

Johnson mainly uses upbeat music in her videos, which directly conflict with the words she uses to describe the difficult moments in her journey. "Good afternoon, it's day one-hundred and fifty-two," she greets her followers in Episode 34 as she walks along a rainy trail in Washington state (Johnson). She continues,

> "We just left Snoqualmie...it was nice to stay in a real bed...now we have six miles of uphill, like pretty steep uphill...it's crazy, all the hikers, we're all counting down now, the final days, we have a week and a half left, which is exciting, because it's so rainy and cold out here most days that we just kind of want to be done by now. Some people have been quitting, stopping because it's just so miserable" (Johnson).

Even in the most challenging circumstances, Johnson never appears distressed. Her audience never sees her cry or lose her temper on camera -- she says that the conditions are arduous, but her positive tone and facial expressions contradict her words. Is this an expression of her resilience, or is the presence of the camera in that moment uplifting enough to take her out of her own struggle? Perhaps the camera allows Mari to become who she wants to be in moments of struggle: immune to struggle in pursuit of a goal, and endlessly optimistic through the most strenuous conditions.

Werner Herzog's documentary Grizzly Man is another unique example of the use of the camera as a video diary. While Mari Johnson's edited footage creates a curated

image of herself in her videos, Herzog edited found footage of Timothy Treadwell after his death, thus without his consent. If he had had the chance, Treadwell might have edited his footage like Mari Johnson, to present himself in the most flattering way. However, Herzog uses Treadwell's footage to reveal the conflict between the steady, intrepid explorer that he wishes he could be, and his unhinged, unpredictable side that explodes with expletives in front of the camera. Treadwell films himself talking about the grizzly bears and other wildlife that he interacts with in the Alaskan wilderness. When he films himself, he is able to embody the person that he wants to be: an intrepid explorer who understands grizzly bears more intimately than scientists. An individual who once aspired to be an actor, Treadwell appears to enjoy performing for the camera and a future audience, speaking with enthusiasm and varying the tone and pitch of his voice (Grizzly Man).

In other moments during the film, Treadwell expresses darker emotions, particularly fear and anger. With the spectacular backdrop of Alaskan mountains, he describes his expedition but then escalates into an expletive-filled attack against the National Park Service and its rangers. Visitors to the area, whom he calls "poachers", leave him a rock cairn with a smiley face, which he interprets as a threat. He spends a great deal of time inspecting a note on a log that the poachers leave him, trying to understand its sinister, hidden meaning (Grizzly Man).

Alone in nature, Treadwell uses the camera as a nonjudgmental listener to alleviate his feelings of isolation. While Treadwell feels a strong connection to the wildlife around him, particularly the bears and foxes whom he names and talks to, he is

still emotionally isolated. He does not feel a connection to other humans, so the camera becomes his only "confident" in the remote wilderness. Perhaps, for Treadwell, the camera represents the "ideal companion": the nonjudgmental listener and constant companion that he cannot find anywhere else in the world.

Treadwell wants to present himself on camera as someone who could survive in the wilderness and connect to the grizzlies in a way that other humans could not. Like Edie in Grey Gardens, he shows his need for support and connection to the eyes of the camera. However, he also reveals his unpredictable temperament and odd personality traits, such as repeating himself in a high-pitched voice when he talked to the bears: "I love you! I love you! I love you!" (Grizzly Man). Werner Herzog reflected on Treadwell's use of the camera for psychological support in his narration:

> "Beyond his posings, the camera was his only present companion. It was his instrument to explore the wilderness around him, but increasingly, it became something more. He started to scrutinize his innermost being, his demons, his exhilarations. Facing the lens of a camera took on the quality of a confessional."

Treadwell kept a personal journal where he could write down his thoughts, as explorers did for centuries on long-distance expeditions (Grizzly Man). However, talking to the camera served a special purpose for him, easing his feelings of isolation and allowing him to express his deepest thoughts out loud. Herzog shows that Treadwell's curated and uncurated selves both exist in the same footage, suggesting that it is not always possible to behave as the ideal version of oneself when experiencing extreme isolation. While Herzog's purpose of the film is to advance his own arguments and thoughts about nature and contemplate the human condition, he still selects certain clips from Treadwell's

footage to show that he wanted to be an engaging actor and savior of the grizzly bears, but was limited by his innermost conflicts and demons.

Though the human brain may react to the camera as it does to a pair of watchful eyes, causing a change in behavior, the eyes of the camera can encourage individuals to be the best version of themselves, inspiring optimism during isolation. Grey Gardens has several scenes in which the audience can hear the person behind the camera or briefly see David Maysles with his sound equipment, reminding the audience that the film is a constructed view of reality. Frederick Wiseman includes long takes in his edits to immerse his audience in the world that he observed. Similarly, Grizzly Man offers a carefully-curated selection of Treadwell's original footage, accompanying it with Herzog's narration.

The camera can be a powerful tool for coping with isolation, a nonjudgmental listener, a companion during loneliness, and a motivator for better behavior. It can serve as the ideal quiet listener in isolated settings, like filming video diaries on a long wilderness trail, or surviving confinement during the filming of a reality television show like Real Housewives. When living in an analog astronaut mission like SIRIUS-19, the camera can serve as a passive tool to de-escalate conflict and remind its crewmembers to be on their best behavior. It can ease the stress of isolation when caring for an elderly mother like Little Edie or living among wild animals like Timothy Treadwell. Acting differently in front of the camera is part of our brain's response to knowing that someone, or something, is watching us. However, changing our behavior is not necessarily negative. Being in front of a handheld camera can distract the negative feelings of life in

an isolated environment and can make individuals feel heard when they have no one else to talk to -- whether it is us or someone else that is filming.

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