

ENVIRONMENTAL ISSUES OVER THE PLOT IN DOLPHIN SONG BY LAUREN ST JOHN

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Abstract

Literacy in modern era is a problem that many children face. Teachers need to understand that being literate is not only about being able to read, but also having critical thinking related to several issues raised in literary works, such as environmental issues. There are many books which can be used to help the children increase their critical thinking about this kind of issue. Therefore, this research analyzes the environmental issues raised over the plot in *Dolphin Song* by Lauren St John. This study tries to answer one research question, which is “What are the environmental issues raised over the plot of the novel *Dolphin Song* by Lauren St John?” In order to answer the research question, the researchers use synthesized theory of plot from Freytag and Tasrif and a research conducted by Anand (2013) as a reference to analyze the environmental issues. The approaches applied in this study are formalist and ecocriticism approaches. There are two environmental issues raised over the plot in the novel, which are exploitation of natural resources and pollution. Besides, pollution of undersea noise is the issue which is highlighted by the author. The author also discusses the effects of LFA sonar on marine biodiversity.

Keywords: ecocriticism, environmental issues, formalist, plot

Introduction

Novels have several intrinsic elements which are essential. Those elements help the readers understand the stories told in the novels. One of them is plot, and it plays an important role in the novels. According to Goodman (1954) in Egan (1978), plot is “the movement from beginnings, through middles, and to ends of the events in the novels”. In each step of that movement, some issues can be raised by an author of a novel. The issues can be diverse, such as psychological problems, humanity, or love. Interestingly, there are also issues which might sound a little bit unfamiliar, but are also raised by several authors in the plot of their novels – environmental issues. The environmental issues conveyed in the plot of a novel can be from the author’s concern about the problems of nature happening nowadays, such as deforestation, exploitation of animals, and uncontrolled household waste. Moreover, related to the importance of literacy, teachers can develop their students’ critical thinking by using the novels which discuss or focus on these kinds of issues, specifically the environmental issues.

This study aims to identify the environmental issues conveyed over the plot of *Dolphin Song*. Hopefully, this study can help the readers, especially the students, understand the importance of taking care of nature through literary works. Also, this study can motivate them to build awareness of the environmental issues and to take action to stop those problems in the real life.

In order to figure out the environmental issues raised over the plot of *Dolphin Song*, the researchers used theories of plot by Gustav Freytag and Tasrif which were synthesized. Gustav Freytag identified plot into five stages forming a pyramid, which is also known as Freytag's Pyramid (Abrams, 1985, p. 161). They are exposition, rising action, climax, falling action, and resolution or denouement. He suggested that this technique can be used in order to understand the drama or tragedy that occurs in the plot (Harun, Razak, Nasir, & Ali, 2013). On the other hand, Tasrif (n.d.) in Lubis (1981, p. 17) divided plot into 5 (five) parts as well. They are situation, generating circumstances, rising action, climax, and denouement. In this study, these two theories were synthesized, which later formed a pyramid as follows.

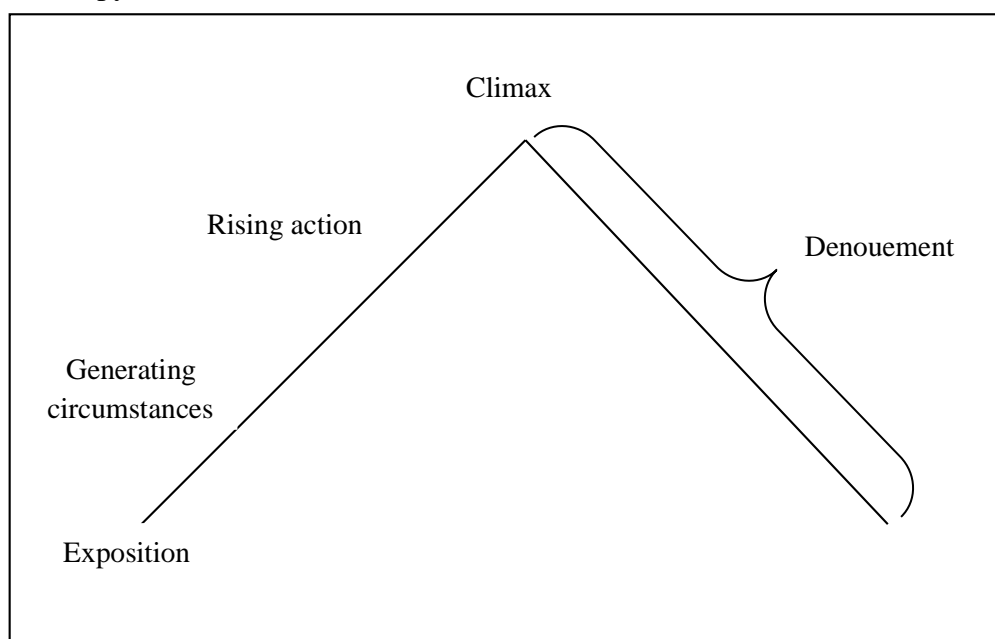


Figure 1. The synthesized plot structure from Freytag and Tasrif

Moreover, this study also used a list of ten environmental issues in order to find the issues conveyed in the plot of *Dolphin Song*. This list was made by Anand in his research article called *Global Environmental Issues* in 2013. They are climate change, conservation of species, energy crisis, exploitation of natural resources, land degradation, land use, nuclear issue, overpopulation, pollution, and waste management (Anand, 2013).

While studying the plot of *Dolphin Song*, the researchers of this study examined the environmental issues found in the plot structure, along with the sentences and page numbers from the novel as the proofs. For example, in the exposition, the environmental issues raised are pollution and land use. In addition

to the analysis, this study also identifies the contributions of the environmental issues towards the development of the plot.

Method

This study is conducted using a novel named *Dolphin Song*. The author of this novel is Lauren St. John. This novel was published by Orion Children's Book on August 2007, containing 272 pages. Interestingly, this novel is the second book of a series of *Animal Healer*, because in this series, the author focused on delivering messages about the importance of taking care of nature, particularly animals. Also, this novel received Carnegie Medal Nominee on 2008.

Generally, this novel talks about a girl who has power to heal animals. In this book, she builds human-nature relations and wants to solve the environmental issues as well. This girl also overcomes several problems which later teach her many valuable lessons. The reasons why this novel is worth studying are because it raises environmental issues which are relevant to our daily life and it is also suitable for everyone, because there are many moral values delivered in this novel. This novel is also best for children, because the vocabularies used in this novel are easy enough to understand.

Furthermore, this study uses formalist and ecocriticism approaches. The formalist approach is used to analyze one of the intrinsic elements of the novel, which is plot, while the ecocriticism approach is a guide to determine the environmental issues found over the plot of the novel. More specifically, the ecocriticism complements the formalist approach, because this study focuses on the environmental issues raised over the plot. In other words, these approaches are mixed in order to get better understanding about the novel.

This study employs library study. It makes good use of several sources. The main source is the novel, entitled *Dolphin Song* by Lauren St John and the second sources are related studies and theories collected from books, articles, and journals. Also, this study was done in a certain procedure. The procedure consisted of several steps. The first step was deciding a topic. The topic was about environmental issues raised over the plot.

The second step after deciding the topic was conducting library studies. This kind of methodology is suitable for this research. It is because it requires independent study, including reading the novel itself and the theories which supported the research.

After reading and understanding what the novel was about and also the relevant theories, the plot was analyzed from the very first chapter until the last one. Then the environmental issues which are raised over the plot were analyzed as well, to see whether the issues consistently exist in every stage or not. Besides, the contributions of the issues towards the development of the plot were also analyzed. In this step, the combination of formalist and ecocriticism approaches was used.

The next step was consulting this study to a Biology lecturer from Atma Jaya University, Jogjakarta. The consultation aimed to validate the results of this study in order to avoid misconceptions about the analysis of the plot and the environmental issues. Finally, the conclusion of this study was drawn briefly, so that the readers have the same conclusion after they study this research.

Findings and Discussion

The plot in *Dolphin Song* is analyzed using the synthesized theory from Freytag and Tasrif. There are 5 (five) stages or sections in this synthesized theory. They are exposition, generating circumstances, rising action, climax, and denouement. Moreover, there are several environmental issues raised in each sequence of events. The analysis of the plot and also the environmental issues can be drawn as in the figure below.

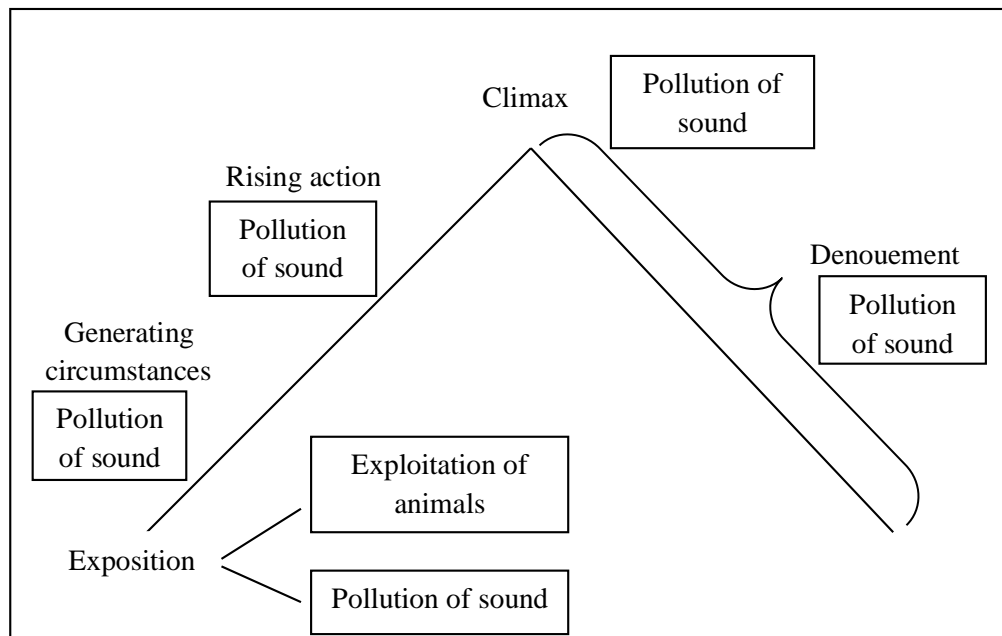


Figure 2. The environmental issues raised over the plot of *Dolphin Song*

Exposition

In the novel, exposition starts from the first chapter until the ninth. Several characters and their characteristics are introduced and the setting and conflicts are presented as well. Each of the characters are described in detail below, followed by the explanations of the setting and conflicts.

1. Characters

This study tries to list several characters which have the important roles in determining the plot. The first one is the main character of this novel, Martine Allen. In Lauren St John's "Dolphin Song", Martine is a girl who has a gift to heal animals (p. 3). However, she is also described as someone who is afraid of deep water (p. 8). Throughout the plot, she plays the most important role, especially related to the dolphins. Besides, she always appears in every chapter and she is involved in every situation.

In the novel, there are also other characters who support the development of plot. These characters take part in some events. For example, there is a boy named Ben Khumalo. He is Martine's best friend who appears to be calm yet smart and brave. Moreover, he is the second character who is involved in almost every

situation. Uniquely, Ben rarely speaks at school (p. 36), except to Martine and other people he knows very well, but actually he is a kind boy. Besides Ben Khumalo, there are other characters, such as the fellow castaways, who are added in the next sequence of event, which is generating circumstances.

2. Setting

This novel mainly takes place in Africa, although the events happen in 2 (two) different places. The first place is South Africa, especially Kwazulu-Natal coast, because that is the place where Martine and her friends are going to watch the Sardine Run, as stated in the novel: *Miss Volkner explained that they would follow the Sardine Run up to the Kwazulu-Natal coast, before continuing north to Mozambique, where they would help count the population of dugongs* (p. 2). The second place is East Africa, particularly one of the Bazaruto Islands in Mozambique, where the dolphins deposit Martine and her fellow castaways on the stormy night, as stated in the novel: *"I bet you we're on one of the Bazaruto Islands in Mozambique. We were about 100 miles from them at lunchtime yesterday so I guess it's possible..."* (p. 103). This is also the place where the main issues related to the dolphins happen.

The story in the novel more or less happens between June and July, because it is the best time to watch the Sardine Run, as stated in the novel: *Every June and July, millions of sardines left their home off the Agulhas banks on the west coast of South Africa in pursuit of their main food, the nutrient-rich plankton flowing eastwards on the cold current* (p. 2). Hence we can conclude that all of the events in the novel happen between June and July. Besides, the setting of situation in the novel is on great enthusiasm, as stated in the novel: *The whole class was in a fever of excitement at the thought of ten whole days off school in mid-term, and on a cruise ship no less* (p. 2).

3. Conflicts

There are two main conflicts raised in the novel. The first one, explained in the second sequence of event (generating circumstances), is that Martine and the other 6 (six) friends are lost in one of the islands in Bazaruto Archipelago on the night when a big storm happens. The second conflict, which is the main issue, is when Martine and her friends try to stop the sonar test, elaborated in the rising action and also the climax.

In this first sequence of event, there are 2 (two) environmental issues found. The first environmental issue is about exploitation of natural resources. In the novel, Lauren St John focused on the exploitation of dolphins. She described this issue in a dramatic way, as stated in the novel: *When the dolphin approached the poolside she'd noticed that its mouth was curled at the corners in a permanent smile. Throughout the show, she'd had the feeling that the dolphin was smiling only because it couldn't help it – like a clown smiling through tears* (p. 11). The author wanted to tell the readers that some animals kept in circuses suffer quite a lot, because they are forced by their trainers to practice. Also, sometimes they are not fed well, which can slowly make them die because of hunger, malnutrition, and stress. The sentence "...like a clown smiling through tears" symbolizes the

dolphin's pain, but it is still forced to perform the show in order to entertain the audiences, and Martine notices that.

The author also mentioned the exploitation of another animal. According to the novel, in order to get enough money to take care of the animals in the game reserve, Gwyn Thomas "uses" Jemmy, the white girrafe, as a tourist attraction, as stated in the novel: *...but her grandmother was adamant that the best way to ensure that the white giraffe stayed special was to allow people access to him in a controlled environment. Added to which, the game reserve needed the money he earned them. "It's simple arithmetic, Martine. The more money we can make, the more animals we can save"* (p. 12). Based on her statement, Gwyn Thomas wants to make sure that she can run the game reserve well and earn more money by making Jemmy as one of the famous attractions in Sawubona. Although it makes sense, allowing tourists to interact closely with Jemmy can be considered wrong, because based on the novel, Jemmy is a special girrafe, and he is a fictional representation for all animals, especially the endangered ones.

The second environmental issue raised in exposition is pollution, particularly the pollution of sound. This kind of pollution can come from various sources and one of them is undersea noise. Uniquely, this issue has already been introduced in the exposition and it is also mentioned in other sequence of events several times.

In the novel, Martine asks Mr Manning why dolphins and whales beached themselves. Mr Manning mentions several possible causes, such as being wounded by fishing gear, bite wounds from sharks, or being ill (p. 64). However, he also mentions LFA sonar used by the Navy, which is considered as the main cause (p. 65). Further explanation about LFA sonar is elaborated in the discussion of climax.

Based on the discussion above, actually the environmental issues have already played important roles in the exposition. The contributions of the issues are related to the characters, setting, and conflicts presented in this first sequence of event. In this section, the environmental issues – exploitation of animals and pollution of sound – are introduced.

Later on, these issues influence the characters, especially the main character, to develop their concern about the environmental issues happening around them. Martine, the main character, is the first person who pays attention to the issues. It can be seen from the moment when Martine interacts with the dolphin in the zoo, witnesses her white girrafe surrounded by many tourists at Sawubona, and the dolphins saving her from the storm in Dugong Island. Besides, the environmental issues in the exposition influence the author to choose different setting of places. The exploitation of animals happens on land, because it occurs in the game reserve and the zoo, whereas the pollution of sound takes place in sea, because it deals with undersea noises. Also, the environmental issues affect the development of the conflicts, from the small problems such as exploiting dolphins in the zoo for entertainment, to the big ones such as testing sonar which is bad for marine mammals.

Generating Circumstances

The second sequence of event is generating circumstances, which goes from chapter 10 until chapter 19. Some initial problems take part in creating the

circumstances and the events in this section take place in a strange island, which is the main setting of place, where Martine and her fellow castaways start facing a lot of issues.

It begins from chapter 10. There is a night when a big cyclone happens in the middle of the sea. The teachers and students, including Martine, are about to go to Mozambique after following the Sardine Run. Even though everyone is frightened, Martine still tries to bring her survival kit which she got from Tendai, her friend in Sawubona. Soon, she remembers about Grace's warning about the boat-fence and she blames herself for not paying attention to it, as stated in the novel: *The boat-fence! Of course! It was the railing around the ship. How could she have been so blind? How could she have missed something so obvious? The railing was going to be the cause of a catastrophe* (p. 80). When she tries so hard to tell Miss Volkner, her teacher, about the railing, she sees Claudius who forces Ben to give his lifejacket to Claudius (p. 81). Then she asks Ben to just give up his lifejacket and run with her, but soon they notice that some of the children are not on the deck any more. Unfortunately, the deck is slippery that they lose their grip and fall down to the sea (p. 83).

The story then continues to a moment when Martine, Ben, and other kids are rescued by the dolphins and deposited them on the beach of an uninhabited island in the Bazaruto Archipelago. The other 5 (five) kids (except Martine and Ben) which are added in this section are Claudius Rapier, Sherilyn, Jake Emery, Lucy Van Heerden, and Nathan Nyathi. In the island, these kids have to face a lot of problems in order to keep on surviving, such as looking for food and building shelter. Besides, the relationship between Martine, Ben, and the other kids is not quite good and tight. It can be seen from the way Claudius rejects Martine and Ben on the first day in the island, as stated in the novel: *"That's settled," announced Claudius. "We'll call you when the search party gets here. Until then, stay away from us"* (p.107).

In this section, Martine and Ben also meet the dolphins which saved them on the stormy night. They also decide to name the dolphins (p. 120), which shows the close relationship between them and the dolphins. After spending some time with the dolphins, Martine and Ben come back only to see their friends eating the food they have collected, use the shelter which Ben has built, and take Martine's survival kit. Martine is really angry at them, but Ben remains silent and keeps her away from their friends, which then makes Martine mad at him too. Ben feels disappointed because of what she says, then he decides to leave Martine alone.

Later on, there is a problem which makes Martine and Ben reunite. When Martine goes to the beach and wants to swim there, the dolphins block her way for a reason which Martine does not understand. Soon she finds out that there is a link with a thick cable which seems modern and very new (p. 138). She even sees a whole grid of the cables. When she is about to observe more, a manta ray comes towards her, but suddenly there is an undersea explosion and the manta ray gets the impact. Although it does not hurt Martine physically, she becomes shocked because of the accident. Ben bursts from the water beside her and helps her get out of the water (p. 139). Martine tries to tell Ben about what has happened, but then they see a boat coming to the beach with four Africans in it. Ben warns her that those men may be the ones who laid the mine (p. 142).

After the accident, they come back to the island, but then Lucy comes and tells them that something bad has happened to Claudius. Soon, they find out that he was stung by a Portuguese man-o'-war. The author describes Claudius' condition, as stated in the novel: *His face, lips and neck were swollen. His breathing was shallow and laboured* (p. 145). They try the best to heal Claudius using the leaves that Martine got from Grace. They also take turns to watch over Claudius and collect some food supplies. Slowly, Martine realizes that the island is changing them (p. 151). They become closer and always help each other since the day when Claudius was stung by the man-o'-war. Claudius also feels sorry for acting so bad towards Martine and Ben, and he becomes a good boy from then on.

The environmental issue raised in generating circumstances is pollution of sound and water caused by an undersea mine. The explosion caused by this mine gives bad impacts to another organism. It is told in the novel that while Martine is swimming in the ocean, there is a manta ray coming towards her, but suddenly an undersea mine explodes and tears the manta ray into pieces (p. 144). This undersea mine is considered as pollution, because the sound coming from the explosion can disturb other living creatures. Moreover, the frequency of explosions can range from 1 up to 1000 Hz, depending on how strong the mine is (National Research Council, 2003). The mine can also hurt anything or anyone that detonates it unintentionally. If it is put near coral reefs, surely it will cause great damage and loss of biodiversity.

The issue about the undersea mine raised in generating circumstances contributes towards the development of the plot from the previous sequence of event. This issue adds more information about the type of pollution of sound and lifts the story to the higher section of the plot. Moreover, the environmental issue presented in generating circumstances contributes to the addition of character involved in this issue, which is Ben, because Ben and Martine find the undersea mine together. Besides, the issue about the undersea mine raised in this sequence of event also forms the circumstances and changes the characters' perception about the condition of the island, because after the explosion, Martine and Ben realizes that there is something wrong and dangerous with the island (p. 164).

Rising Action

According to the novel, this sequence of event goes from chapter 20 until chapter 26. In this section, the author brings some new issues which are closely related to the main problem, which is about the dolphins. The story still continues from the previous section. There has been a close bond between them ever since they saved Claudius. Besides, Martine also realizes that actually she has not known her fellow castaways yet, although she often meets them at school (p. 160). Slowly, she can accept her friends along with their strengths and weaknesses.

The problems start when Jake tells his friends that he sees the dolphins. Unfortunately, they seem to behave strangely, as stated in the novel: *"I was practising sprints at Dolphin Bay and they came right up to the shore. I thought it was cool that they were watching me, but then they started milling around and acting all confused. You'd better come see what's going on"* (p. 164). The most horrifying fact is that those dolphins are the ones which saved the kids on the stormy night (p. 165). Together, Martine and friends try extremely hard to keep

the dolphins wet. They help each other find containers in the lighthouse to bring the water from the sea, collect aloe leaf gel to soothe the dolphins' exposed skins, and dig holes to tuck the dolphins' pectoral fins. When they are taking a rest after spending their whole energy to protect the dolphins, they hear a pinging noise, which seem to be sonar used by the navy (p. 170).

Their curiosity becomes bigger when Mini, one of the dolphins, comes back to "tell" them something. Martine notices a section of clear cable that Mini brings for her and shows it to Ben. Then, they decide to let their friends know about the cable and also the story of four African men who came to the island several days before. Together, they discuss some plans to figure out the undersea mine in order to save the dolphins.

When they have successfully done the first plan, Claudius does something different from their second plan. He keeps standing in the middle of the beach, while three African men are coming because of the explosion triggered by Jake. At this moment, the name of the island is revealed – Dugong Island – as stated in the novel: "*Dugong Island. This is where you are trespassing*" (p. 195). Claudius' act leads him and his friends to another problem, because the men then ask Claudius forcefully to accompany them to another island called Paradise (p. 196). Fortunately, Martine and Ben are coming with them, because they have sneaked into the dark compartment of the boat, as what has been planned for the first phase.

On Paradise Island, Martine and Ben painstakingly try to set Claudius free. While they are looking for possibilities, they notice that the kidnappers finally know who Claudius is from the news on the TV, as stated in the novel: "*Eleven nights ago, seven Cape Town schoolchildren fell overboard during a freak storm off the Mozambique coast and have been missing, presumed drowned, ever since. Presumed drowned, that is, by almost everyone except property magnate Ed Rapier, father of Claudius ...*" (p. 205). Claudius' father also mentions that he has prepared a million rand for those who can tell him where his son and the other kids are. It makes the kidnappers decide to keep Claudius until tomorrow morning for the sake of the money.

From this sequence of event (rising action), we can see that in order to save the dolphins, Martine and friends have to overcome some issues. These problems seem bigger than those in the previous section (generating circumstances). In generating circumstances, the problems are related to the survival life in the island, such as looking for food, building shelter, and adapting to the new environment. However, in rising action, the issues are connected to the act of saving the dolphins from the sonar testing. These issues will be more intense in the next sequence, which is climax.

The environmental issue raised in this sequence of event is similar to the issue in exposition and generating circumstances, which is pollution of sound. The author mentioned again the issue of sonar test. It makes the dolphins confused and stranded, as stated in the novel: "*Twenty-one dolphins were splayed across the white sand in golden sunlight. Something had driven them to flee the sea. The tide was going out and they were stranded, waiting to die*" (p. 165). Martine relates this phenomenon with the explanation she got from Mr Manning, as stated in the novel: "*A lot of scientists believe that LFA sonar's one of the main causes of*

dolphins and whales getting stranded,” said Martine, remembering her conversation with Mr Manning during the Sardine Run (pp. 170 – 171).

Furthermore, the environmental issue presented in rising action intensifies the conflict of the story. In this sequence of events, the environmental issue, particularly the sonar, gives impacts on the dolphins which can be witnessed directly by the children. Therefore, all of the kids stranded in the island are involved in this issue. The effect of sonar witnessed by those characters also increases their awareness of the issue. Later on, this issue influences the characters to take actions in order to prevent the upcoming sonar test. The pollution of sound happening in this sequence of event then starts rising the conflict up into the highest level in the plot structure, which is the climax.

Climax

The next sequence of event is climax, which exists from the 27th until the 29th chapters. This is the section in which the main issue is on its highest point. Referring to the novel, the main issue is about the sonar testing. However, there are some events in the novels which lead to the main problem.

When the kidnappers have gone, Martine and Ben sneak into an abandoned hotel where Claudius is roped to a chair. They want to save Claudius first before searching for the information about the sonar testing, but Claudius asks them to go. He knows they do not have much time to figure out the problems (p. 209).

After observing some rooms and examining the situation, Martine and Ben finally go upstairs and discover a clue there. This is the moment when the problem is on its highest point and the situation becomes more frightening. They find a print-out of an email which contains information about the sonar testing, as stated in the novel: *Dear M, Thank you for your kind permission to conduct a further test near Dugong Island on the date agreed. Please be advised that it will take place at 12:00hrs and will be 235 decibels. Payment is as before. VS* (p. 214). When they decide to do the next plan, suddenly they are caught by Fernando, the skipper’s right-hand man.

While they are being kept in a room, Ben finds a radio near them and tries to communicate with his father, Dumisani Khumalo, who works in *Aurora*. He keeps trying to speak to his father although his father does not reply Ben’s message. As Ben finishes his sentences, Fernando comes back to the room where Martine and Ben are kept. When he takes his radio, Martine tells him that the sonar test is a big mistake, because actually the dolphins have saved generations of Tsonga fishermen (p. 219). Firstly, Fernando does not care about what she says about the dolphins, so he leaves them in the room. However, while Ben and Martine are thinking about the things they should have done, Fernando comes back to the room and sets them free. He realizes his mistakes, so he decides to help Martine and Ben by providing them a motorboat.

Unfortunately, the skipper finds them while Martine and Ben are ready to escape, so he takes them to Death Island and leave them there. They begin to despair of being rescued, but they still have a little hope, so they call out the dolphins’ names, hoping the dolphins can hear them and come to save them. This is the point when the problems seem impossible to solve (they cannot go out of Death Island, the dolphins cannot be saved, and the other kids are still stuck in the

island), but they still need to have hope, because hope is the last thing that makes them stay alive and sane. At this moment, Martine also regrets the mistakes she has done, especially to her grandmother (p. 228).

Pollution of sound is the environmental issue raised throughout the climax. Here the author mentioned again the sonar test, but this time it is discussed as the main problem. In the novel, Martine and Ben find a clue about the sonar test, which will be conducted near Dugong Island. Ironically, the sonar test will be 235 decibels, which is extremely bad for marine mammals, as stated in the novel: *“Oh Ben, the test that drove the whales to their deaths in the Bahamas was 235 decibels. I remember that because those are the first three digits of our phone number at Sawubona. Under water, 235 decibels sounds like a rocket taking off”* (p. 214).

In order to understand the impact of sonar test towards marine mammals, it is better to understand what sonar is. It is one of the undersea sounds which can give negative impacts to marine mammals and it has been analyzed scientifically (Scott, 2004). Researches on this issue began when there were some reports about the dead whales in the Bahamas, and some scientists argued that the reason was because of the sonar test, which was conducted there before the day when the whales were found stranded. The incident in the Bahamas made the scientists work hard to figure out more about the relation between the sonar test and the dead whales. Later on, the analysis of the ear tissues taken from the dead whales had proven that LFA (*Low-Frequency Active*) sonar used by the Navy was responsible for this incident, although it was still debated and researched for the following years (Malakoff, 2001).

Furthermore, LFA sonar is categorized as military sonar, which usually works at higher power levels. This type of sonar is used in order to gain marine information and data in large areas. Specifically, according to Johnson (2001) in National Research Council (2003), LFA sonar or The U.S. Navy's Surveillance Towed Array Sensor System Low Frequency Active (SURTASS-LFA) for its complete name, has 18 source projectors, and the source level of each projector is about 215 dB.

There are also several types of sonar, such as commercial sonars, that have the higher level than the military sonars. This type of sonar is used for commercial things, such as depth sounding, fish finding, and obstacle detection (National Research Council, 2003). According to Massa Products Corp. (2002), if it works in the ocean, “the level of frequency of commercial sonars can be up to 250 dB” (as cited in National Research Council, 2003).

Based on the short analysis of military and commercial sonars, it can be concluded that the 235-decibel sonar test, which led the Bahamas dolphins to death and makes the dolphins in the novel beach themselves, is still included in military sonars, but presumably the frequency is increased, so it is close to the frequency of commercial sonars. Moreover, if sonar test is around 230 – 235 decibels, it will be dangerous for marine mammals. According to National Research Council (2003), high-frequency ocean noise can damage these mammals' hearing at a close range. Malakoff (2001) even stated that the ultimate physical impact of LFA sonar for the marine mammals is mortality. Other effects which could be seen in the past were the change of direction as shown in a group

of migrating gray whales and the changes in surfacing, breathing, diving patterns, group composition, and vocalizations shown by beluga whales observed for several years (National Research Council, 2003), whereas vocalizations, or vocal exchanges, are important for some marine mammals, particularly dolphins, because they use vocalizations to help them find food, range, navigate, or communicate (Lilly & Miller, 1961).

There are still few evidences about the correlation between the sonars and its impacts on some marine mammals. Nevertheless, there were some reports proving that the use of multiple high-energy mid-range sonars can be the reasons behind this issue. For example, there were mass strandings of marine mammals in the Mediterranean Sea on May 1996 (D'Amico and Verboom, 1998 as cited in National Research Council, 2003) and in the Bahamas on March 2000 (Evans and England, 2001 as cited in National Research Council, 2003). Some scientists argued that sonars were responsible for these events (National Research Council, 2003). However, more experiments are still needed in order to gain deeper knowledge and understanding about this problem, especially about the association between the use of sonars and its impacts on marine mammals.

The environmental issue raised in the climax plays the most important part in the development of the plot structure. In the climax, the issue about sonar test becomes the main conflict which needs to be solved by the characters, because they already know the impacts of the sonar test as pollution of sound towards the marine mammals, especially the dolphins. This issue then leads the flow of the plot to the top of the structure, where the sense of urgency to conquer the problem reaches its highest point, as the conflict of the story does. Slowly, the intensity of the conflict related to this environmental issue goes lower as it comes to the denouement.

Denouement

The plot finally goes to a sequence of event named denouement. This sequence starts from chapter 30 until chapter 33. In other words, denouement is also called as resolution. It means the climax is lowered and the problems are being resolved.

It begins from the day when Martine wakes up and realizes that she is not in Death Island anymore. She is rescued by Alberto, the coastguard, and Mr Rapier, along with Ben and the other kids. They can know Martine and Ben's position with the help of the dolphins, which make a big circle around them (p. 232). Alberto also tells them that Ben's father actually get the message from him, but Ben can not hear it because the volume of the radio might be turned down. From the message, Alberto and his team finally know where they are, so they can save them quickly.

In the denouement, Martine's relationship with her grandmother also gets better. They both feel really sorry for what they have done before the incident. Gwyn Thomas also has decorated Martine's room as a surprise, and she gives Martine permission to ride Jemmy again. From this point, we can see that all problems are finally solved and the story ends happily.

This last sequence of event raises the issue of pollution of sound and it is still related to the LFA sonar discussed in the previous sections. In this part, Alberto

tells Martine and Ben that the sonar test, which is 235 decibels and conducted near Dugong Island, cannot be stopped (p. 236). However, there are no dolphins stranded on Dugong Island, and he thinks the dolphins are on Paradise Island when the sonar test is conducted. Alberto also tells the kids that the government has already paid attention to this issue. Besides looking for more proofs and scientific evidence, the government also takes other serious actions, such as banning the sonar test in their area (p. 236).

In the denouement, the environmental issue acts as the final issue in the plot. It still leaves some unanswered questions for some characters, especially Martine and Ben, but this issue finally leads the plot to the last sequence of event. However, the author might want to make the readers understand that although the conflict is already over, the issue about sonar test is still waiting to be solved and the readers need to be aware of this issue.

Conclusion

In conclusion, the plot of *Dolphin Song* is consistently arranged by following the synthesized theory of plot by Freytag and Tasrif. The plot goes from exposition, continues to generating circumstances, rising action, climax, and ends up in denouement. Moreover, there are 2 (two) environmental issues raised over the plot of the novel, which are exploitation of animals and pollution of sound, particularly ocean noise. Also, the environmental issues are important in leading the flow of the plot. The environmental issues move the story through the characters, the setting, and also the conflicts. Furthermore, this study can be applied as a reference for the students in order to enrich their knowledge about some environmental issues which can be found in literary works and increase their critical thinking and compassion towards environment. This study can also inspire the teachers to design learning materials using literary works (novels, poems, short stories, etc.) which talk about environmental issues. Moreover, the teachers can also apply the values of 3C (Competence, Conscience, and Compassion) while teaching their students about the urgency of environmental issues. “Competence” can be seen when the students are reading the literary works about nature and analyzing the environmental issues. After developing the value of “competence”, the teachers can shape the students’ “conscience” by asking them to do a small reflection, whether or not they had already done some things which directly or indirectly had impact on nature (for example littering or using the air conditioner in their houses unwisely) and then decide the best actions to stop those things. Lastly, the “compassion” can be increased by asking the students to do some concrete things to show their love for nature, for example by taking care of their pets or plants.

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