

## HUMAN REPRESENTATION ON ENVIRONMENTAL SPEECH IN TERMS OF TRANSITIVITY PROCESS

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### Abstract

The role of activists in raising humankind's awareness regarding environmental or ecological issues has gained so much attention since they are communicated and told in many different ways. One of the ways of sharing ideas about those issues is done through speech and statements that are spoken before world leaders, politicians, or in any other occasions. This study focuses on the speech of an environmental activist, Greta Thunberg, regarding climate change. The data were examined through the transitivity analysis, i.e., the distribution of experiential meaning on the speech that was presented at the United Nations Conference of the Parties on Climate Change, 2018. The result shows: 1) the distribution of material process is the dominant one (41,8%), followed by relational process (19,4%), mental process (17,9%), verbal process (14,9%), behavioral process (3%), and existential process (3%); 2) through the process distribution, human beings seem to have their big roles in causing the climate change, but at the same time they are the ones who can prevent it. Therefore, the speech is regarded as beneficial discourse based on Stibbe's ecolinguistic standard. This type of discourse has to be promoted in order to raise ecological awareness in society.

**Keywords:** Ecological discourse analysis, ecolinguistics, transitivity, representation, climate change

### INTRODUCTION

The growth of economy and productivity that humankind is facing nowadays makes the needs of living's standard increase drastically. In order to fulfill the needs, human beings will do anything even if they have to sacrifice the system of life and ecosystem and cause environmental and ecological issues (Trampe, 2001; Wang et al., 2019). Song & Tang (2020) state that the 21st

century is the era where the world is significantly facing ecological issues. One of these ecological issues is climate change. According to the Intergovernmental Panel on Climate Change (IPCC), human beings have a significant influence on the climate system, therefore they have their own way to stop and prevent climate change in order to build a well-being and sustainable future (IPCC, 2018). Particularly, this change happens because of human beings' activities (Dryzek et al., 2012; Hulme, 2013). On the other hand, it is known that climate change is a global issue that brings worries and confusion because the effect that it carries is not merely affecting one aspect of life (Adeleke & Omoboyeje, 2016).

Moreover, this issue becomes the thing to be solved by many disciplines. As for linguists or those who are working in the language field, they can give and show contribution by analyzing any language use regarding the environmental phenomenon. Therefore, this research is called an ecolinguistics-based study, since it analyzes, exposes, and presents the analysis of environmental issues using linguistic frameworks. Generally speaking, many scholars and experts have worked on the representation analysis of environment, ecology, ecosystem, and other systems of life from different frameworks, such as Fernández-Vázquez & Sancho-Rodríguez (2020), Fløttum & Gjerstad (2017), Murray (2020), Nasar et al. (2020), Nerlich & Koteyko (2009), Sedlaczek (2016), Stibbe (2005, 2007), Trampe (2017), and Vavilov (2019). All these studies focused on exposing the representation of a different ecological phenomenon, such as climate change in media representation and animal representation in literary works. Besides that, the aim of these studies is to raise ecological awareness.

Furthermore, when it comes to environmental activists, some people are well aware of their existence based on the activity that these activists do and show to the public. According to Jung et al. (2020), activists' role in promoting environmental issues such as the climate change phenomenon is an interesting thing to comprehend because of the message that they bring through their statements or speech. One of the environmental activists that have been known globally is Greta Thunberg. She is a 17-year-old Swedish girl who devotes herself to spreading awareness about the climate change crisis. Thunberg has been invited to many events regarding the environmental issues where she presented her speech and statements regarding climate change before world leaders, economists, and other activists. The data of this study is the speech that Thunberg presented at the UN Conference of the Parties on Climate Change in 2018. This particular speech was chosen due to its main topic that deals with ecological issues.

Compared to the study that was done by Stibbe (2007) which focused on the harmonious representations of animals, plants, and the natural world on the poems that were written by Japanese poets, this study tries to cover the representation of human on environmental speech regarding climate change using Transitivity system from the Systemic Functional Linguistics by Halliday. Generally speaking, SFL has three components or metafunctions of meaning, i.e. ideational meaning (experiential and logical meaning), interpersonal meaning, and textual meaning (Eggins, 2004; Halliday & Matthiessen, 2014; Thompson, 2013). However, the researchers just focused on the experiential meaning which was realized by the transitivity system (Eggins, 2004). It is known that in order to find the representation of some entities, the metafunction that is used by the scholars is experiential meaning or transitivity system. This system is defined as a system that deals with the contents of the clauses, which are expressed in language through some activities that are done, felt, said, and going on in this world (Emilia, 2014). Thompson (2013) adds that the functions of grammar are not merely seen from the verbs and the objects,

but from the whole description of the clauses. The transitivity system consists of six processes (material, behavioral, mental, verbal, relational, and existential), their related participants, and circumstances. Halliday & Matthiessen (1999, 2014) define ‘process’ as the entity that is realized by the verbal group; ‘participant’ as that which is realized by the nominal group; and ‘circumstance’ as that which is realized by the adverbial group or prepositional phrase.

Halliday & Matthiessen (2014) further classify processes into six types together with their associated participants. The ‘material process’ is dealing with the process of happening and doing; it involves the physical actions and has two main participants, i.e., actor and goal. However, other passive participants could be affected by the actor; they are client and recipient. The second one is the ‘behavioral process’. It is the process of behaving which has two participants, i.e., behaver and phenomenon. Then, the ‘mental process’ relates to the perception, cognition, desire, and emotion of living things. The use of this process could be realized by some words like seeing, thinking, wanting, and feeling. The participants of the mental process are senser and phenomenon. Then, the verbal process is identified by the use of verbal words, such as saying or the synonyms of it. The verbal process has three participants, i.e., sayer, verbiage, and receiver. Last but not least, the ‘relational process’ is the process of being which is divided into two types, namely ‘attributive process’ and ‘identifying process’. The attributive process has two participants, they are carrier and attribute, while identifying process’s participants are called as token and value.

The speech in this study was presented by one of the environmental activists, Greta Thunberg. The authors would also emphasize that the use of the terms speech and story is interchangeable in this study. According to Stibbe (2015, 2020), an ecolinguist, the data which are being analyzed under the ecolinguistic study could be regarded as ‘story’. Besides that, considering the research that has been done by Gong & Liu (2018) and the ecological discourse analysis proposed by Stibbe (2015, 2020), this study asks three main questions: 1) What and how many processes and participants are being used in this story?; 2) How is each process and participant distributed in the story?; 3) How is human represented in this story based on the ecolinguistic perspective? By answering these questions, the researchers intend to raise ecological awareness which is regarded by Fairclough (1992, 2014) as critical language awareness. When focusing on this aim, the researchers may see the speech as a story that could either potentially have damaging effects or potentially produce more harmonious effects (Stibbe, 2007) to the environment, ecosystem, and life in general. It is important to learn about how humankind treats the ecological problem. Thus, this becomes the reason why the researchers choose to analyze the human representation in Thunberg’s speech.

## **METHODS**

### ***Data collection***

The data of this study is taken from a speech that was presented by Greta Thunberg at the United Nations 21st Conference of the Parties in 2018. Since the speech has been made available in the video format, the researchers first watched the video and then transcribed it. After that, it was necessary to make sure that the transcript was in sync with the video. Based on the transitivity analysis, it was found that the whole speech consists of 427 words, which are divided into 67 clauses. The data were parted into clauses in order to be examined using the transitivity analysis.

### ***Analytical framework***

This is an ecolinguistic study which employs the ecological discourse analysis introduced by Arran Stubbe as one of the well-known ecolinguists. Stubbe (2015, 2020) states that those who are interested in analyzing environmental and ecological discourse could potentially analyze the data by using linguistic frameworks, such as analyzing the vocabulary, relationships between words, grammatical structures, intertextuality, and transitivity. Therefore, this study focuses on the use of Halliday's Transitivity System in Systemic Functional Linguistics (SFL) to analyze the environmental speech presented by an environmental activist, Greta Thunberg.

Therefore, based on the explanation on the introduction regarding systemic functional linguistics and ecolinguistic studies, the analysis of the speech or story of Thunberg was divided into some phases. First, the researchers looked for the six types of processes that were used. At this phase, the percentage and number of distributions of the processes were shown. After that, the result was described according to the functions of each process. Therefore, in order to see this from the ecolinguistic perspective, the comparison and the analysis of the six processes were made. In the end, the researchers made their judgment regarding the kind of discourse this story or speech belongs to, based on Stubbe's (2015, 2020) ecolinguistic standard.

## **FINDINGS AND DISCUSSION**

### ***The types of processes and participants in the story***

The current study finds that every type of process is shown in the text of which most of the process lies on the material process, followed by relational process, mental process, verbal process, behavioral process, and existential process in that order. The distribution of each process is shown in Table 1 below.

**Table 1. Distribution of Process and Its Type**

<b>Process Type</b>	<b>Number</b>	<b>Clauses</b>	<b>Percentage</b>
Material process	28	8, 9, 11, 12, 15, 16, 22, 26, 29, 30, 31, 32, 34, 35 37, 40, 44, 48, 49, 50, 53, 54, 55, 56, 60, 61, 62, 64	41,8%
Behavioral process	2	58, 59	3%
Mental process	12	13, 14, 18, 27, 28, 33, 43, 45, 51, 57, 63, 65	17,9%
Verbal process	10	4, 5, 17, 19, 21, 25, 38, 39, 42, 67	14,9%
Relational process	13	1, 2, 3, 6, 7, 10, 20, 23, 24, 36, 46, 52, 66	19,4%
Existential process	2	41, 47	3%
<b>Total</b>	<b>67</b>	<b>-</b>	<b>100%</b>

Transitivity analysis of the speech has discovered a total of 67 clauses, as indicated in Table 1. The material process is the most dominant process that is found on the data, sharing 41,8% of the whole process. It is followed by the relational process which comes with a total of 19,4%, then the mental process has 17,9% distribution, and verbal process which gets 14,9% proportion. On the last part, behavioral and existential processes have the same total distribution with the 3% representation on the clauses.

Furthermore, each process has a different proportion of participants. Thus, it is important to see the distribution of the participants in each process. As mentioned in the previous paragraph, the

material process has the biggest proportion, therefore it has the most distributed participants. The detail is provided in Table 2.

**Table 2. Distribution of Participants**

Participant type	Number	Total (%)
Actor	22	21,8%
Goal	14	13,9%
Range	1	1%
Client	5	5%
Senser	9	8,9%
Phenomenon (M)	6	5,9%
Carrier	10	9,9%
Attribute	8	7,9%
Token	3	3%
Value	3	3%
Behaver	2	2%
Phenomenon (B)	2	2%
Sayer	9	8,9%
Receiver	3	3%
Verbiage	2	2%
Existent	2	2%
Total	101	100%

Based on the Table 2 above, the distribution of each process shows that there were 16 types of participants involved in the text with 101 participants in total. Actor participant happens to be the most seen participant with the percentage of 21,8%, and it is also the active participant of material process. Some active participants like senser (8,9%), carrier (9,9%), and sayer (8,9%), also share a high percentage. Whilst token (3%), behaver (2%), and existent (2%) come with low proportions. In other words, the proportion of the processes found on the data are influencing the distribution of participants that will show in the clauses.

### **The distribution of each process and participant on the story**

#### ***Material process***

As shown in Table 1, there are 28 clauses (41,8%) that belong to the material process. The distribution of material process in clauses is realized by the use of action words or happening and doing verbs. The material process is the predominant process in the text. This could be implied that the speech is mainly depicting physical actions. The actions that are done by the participants in this process could happen in the past, in the present, and future moment. According to this study, actors as active participants are mostly found in living things, i.e., human, although there is one non-living thing functioning as an actor. On the other hand, goals as the passive participants are dominated by non-living things. Some examples are shown below.

Example 1: a few children can get headlines all over the world just by not going to school

Example 2: you are stealing their future in front of their very eyes

Example 3: even that burden you leave to us children

Example 4: we can't solve a crisis without treating it as a crisis

Example 5: we need to keep the fossil in the ground

Example 6: we have run out of excuses

Example 7: we are running out of time

Example 8: change is coming

From the above examples, it can be seen that many material processes involve humankind as the actor (main participant) especially actor 'we' and actor 'you' which have big roles in the environmental system. The actor 'we' here could imply that Thunberg wants the people to work and take action together. Through the use of verbs can't solve, need to keep, and running out, Thunberg refers that the environmental issue, i.e., climate change has to be taken seriously (treat as a crisis). Besides that, she mentions that by keeping the fossil in the ground, it can be one of the ways to prevent climate change. Nevertheless, human beings have been running out of time and excuses in order to do the change now. On the other hand, Thunberg uses verbs like stealing and leave for the actor 'you', where she sharply refers that the audiences (politicians and world leaders) have taken something from the youth and left some burden at these youngsters' shoulders. At some points, Thunberg also uses Implicit Participant (IP) on her speech in the material process which can be seen in the example below.

Example 9: our civilization is being sacrificed for the opportunity of a very small number of people to continue making enormous amounts of money

Example 10: our biosphere is being sacrificed so that rich people in countries like mine can live in luxury

Both of the examples above show that 'our civilization' and our 'our biosphere' as the goal of some actions. However, the actor is not mentioned, which can be implied as the implicit participant (by who?). This can be seen by the use of passive verbs 'is being sacrificed' which requires an actor in order to learn about who does the actions. Even if the exact actor is not explicitly mentioned, Thunberg manages to make the clauses look detailed by using circumstances, e.g., circumstances of cause-behalf (so that rich people in countries like mine can live in luxury).

The function to use the material process and its participant is to show that humankind's actions and activity have their big role in influencing the climate system. It is shown by the proportion of actor humankind as the active participant. Besides that, it was explained earlier that the material process is the process of doing and happening, it gives the audience the feeling of strength and power to believe what Thunberg stated.

### ***Relational process***

Table 1 shows that the relational process in Thunberg's environmental speech regarding climate change holds 19,4% of all the processes. The use of the process is far lower than the material process, the percentage is a little bit higher than the other process like verbal and mental processes. Through the use of relational processes, Thunberg categorizes, classifies, and defines some entities. Some examples are shown below.

Example 11: I am from Sweden

Example 12: Sweden is just a small country

Example 13: you are never too small to make difference

Example 14: you are too scared of being unpopular

Example 15: even when the only sensible thing to do is pull the emergency break

Example 16: the real power belongs to the people

From the example, it shows that Thunberg first classifies herself as someone who comes from one country, i.e., Sweden, then she categorizes that country as a small country. In the other examples, she defines that the participant 'you' has the role to make difference and make something good regardless of age. She does this to refer to the youngsters. However, the other participant 'you' in 'you are too scared of being unpopular' could be referred to the other people, which are adults or politicians who are scared of doing something that is not giving a big impression to their images. Therefore, Thunberg confidently states that people or humankind have the power, thus they are the ones who can pull the emergency break in order to stop climate change.

Relational process or process of being has its significant function on the clauses since it is the appropriate way to explain the relationship of two entities. In other words, the use of this process could help the audience to understand more about what humankind could do and could not do because they understand their role. This could be called as reasoning what is supposed to be done, such as never being scared of starting something good in order to keep the environment in good condition.

### *Mental process*

The mental process is the third process which has a high percentage of the data. It shows in Table 1 that there are 12 mental processes that hold 17,9% in the whole system. The presence of the mental process seems to be the main way for Thunberg to show her feelings regarding what happens in this world right now. Below are some examples.

Example 17: imagine what we could do together if we really wanted to

Example 18: I don't care about being popular

Example 19: I care about climate justice and the living planet

Example 20: until you start focusing on what needs to be done rather than what is politically possible

Example 21: and we need to start focus on equity

It is shown in the examples that Thunberg uses participant senser 'I' to express her feeling. She wants the audience to learn that she cares about climate change and living things, which are the things that most people think as unpopular things to do. Thus, she also states that she does not care about being popular but pays attention to the ecological issues. However, she is not merely putting herself as the only senser because she also uses the participant senser 'we' to represent the society or to let the audience have the feeling that they are part of entities who share the same attention regarding climate change. This can be seen by the use of the mental process 'imagine' and the senser 'we, together'. In other words, senser 'I' and 'we' tend to have the same attention to the phenomenon participants, such as 'climate justice and living planet' and 'the equity'.

### ***Verbal process***

According to Table 1, the occurrence of the verbal process is 14,9% processes with a total of 10 clauses on the data. The verbal process is the process that occurs between mental and material processes ever since it involves the operations of physical actions or ‘saying’, ‘uttering’, and the synonym of it (Thompson, 2013). Thunberg mostly represents the participant of the verbal process by using the pronoun ‘you’ which is directly referred to the audience. Some examples are shown below.

Example 22: you only speak of green eternal economic growth because you are too scared of being unpopular

Example 23: you only talk about moving forward with the same bad ideas that got us into this mess

Example 24: maybe they will ask me about you

The examples shown above represent the distribution of participant sayer ‘you’ are the most used participant sayer on the verbal process. This sayer is referring to the audience of the event which is mostly world leaders and politicians. Hence, Thunberg’s aim to address the audience using this participant is to let the audience know that they are the parties who can only give words not actions when it comes to climate change. Nevertheless, participant ‘you’ is not only used as sayer but also as a phenomenon, which shows in example 24. Sayer ‘they’ refers to the children and the phenomenon ‘you’ is for the audience.

Therefore, the use of participants in the verbal process is mostly addressed to the audience of the event, i.e., world leaders and politicians. Thus, these people who have the authority to make regulations in certain aspects such as environmental issues have not yet achieved the goal. They can only give promises without proof.

### ***Behavioral process***

From Table 1, the clauses of the behavioral process are not showing much significant proportion with the total of 2 clauses (3%). However, the participant in this process gives clearer insight into the role of humankind in the ecological issues. The only behavioral process used by Thunberg is ‘ignore’ which shows in two clauses.

Example 25: you have ignored us in the past and you will ignore us again

Thunberg once again uses participant ‘you’ to the audience in order to make it clear that these people (world leaders and politicians) are not merely promising things but also behaving like they do not care. Ever since this process is related with the mind and expression which shows on behaving, Thunberg means that these people are only focused on other things, e.g., economic growth. However, these people ignore the activists and young people who are going to be the future generation and the ones who will get the impact of this behavior.

### ***Existential process***

The proportion of existential processes as seen in Table 1 is 3% with a total of 2 clauses. This proportion is similar to the behavioral process, which indicates that the use of the existential process is insignificant on the clauses. However, this process has its role in representing the existence of some entities. An example of the existential process can be seen below.

Example 26: maybe they will ask me why you didn't do anything while there still was time to act

It is noted that the use of the existential process can be discovered by the use of the word 'there', which indicates the current existing and happening entities. In example 26, Thunberg uses the existential process to depict the existence of a time that is supposed to be taken or done by the audience, i.e., world leaders. The time has to be taken in order to avoid any regret in the future, thus she assures the audience by using this clause.

### **The ecolinguistic perspective about the representation**

Based on the description of representation of each process above, it is clear that humankind has their role in influencing the climate system. Thunberg seems to try to tell the readers and audience that humankind is not merely the victim of some environmental issue and phenomenon, but they are the ones who did it for themselves. The domination of pronouns 'we', 'you', and 'I' as the participants in most of the processes makes it clear that human beings are the only doers of the phenomenon. As stated by Fairclough (2001), the use of pronouns is significantly important in analyzing text or discourse. Particularly, the use of first pronoun 'we' in most processes like material and mental processes will help the audience to unconsciously accept what Thunberg says or accept her viewpoint regarding climate change. In other words, it could also make the audience be on her side (Zhang, 2017), which is precisely what activists want in their campaign. Therefore, raising the ecological awareness can be done through the use of some particular verbs in the process types, for instance the ability to avoid hiding the participants involved in representing some ecological phenomena. Thus, in order to achieve her goal, she manages to represent her experiences and feelings by using the processes and providing the participants to gain support. This is in accordance with Wang et al. (2019) who state that humankind has a significant role in the system of life or ecosystem that could potentially affect the environment, positively or negatively.

Moreover, from the hierarchy of participant distribution regarding environmental discourse in terms of transitivity system analysis, Goatly (2000) states that the dominant one could come from the actor in material process, followed by the sayer in verbal process, the senser in mental process, and the affected in material process. The use of this arrangement is to see the power that each participant holds and shares in each process. In this study, it is found that the hierarchy matches the results at some point, meaning that the active participants in the material, verbal, and mental processes seem to share pretty strong power. For instance, the sayer in the verbal process has the ability to send messages and could affect the consciousness of other participants (Haig, 2012).

Furthermore, Thunberg's ability to put the future generations, i.e. youth, as the most possibly impacted party by the climate change's regulations could help her to get empathy from these young generations in particular. Stibbe (2015, 2020) states that one of the ecosophy that can be found in ecological discourse is the category of 'now and the future'. This ecosophy precisely refers to the current and future generations that will live in this same world. However, they could face different states of environmental issues. Therefore it is significantly noted by Stibbe (2015) that the possibility for future generations' well-being depends on the present. In other words, maintaining the ability to live with high wellbeing is not merely needed by the current generation. As a teenager, it is normally accepted if Thunberg mostly refers to the other teenagers as the most affected over the climate change phenomenon.

Therefore, judging this from the ecolinguistic perspective, the story presented in Thunberg's speech can be regarded as beneficial discourse. It is concluded by her way of being able to represent the participant, human beings, and ecosystem or system of life as the entities that got interference in the climate system through her speech. Thunberg successfully represents the participants that cause climate change or directly points at the referee of her speech. Additionally, she manages to do this because she is talking before the world leaders and politicians, which are the ones who can make the regulations regarding environmental issues, especially climate change.

## CONCLUSION

Embarking from the finding and discussion, this study concludes that human beings have their roles in the system of life that could cause climate change as seen on the distribution of the processes and the participants. In other words, the distribution of participants in each process that was represented by Thunberg shows the significance of every occasion in preventing climate change. The participants were referred to as having different types of roles in society indicated through each process in which they were involved. The active participants in the material processes were mostly referred to as the humankind in general whose actions potentially harmed the system of life. The relational-process participants were referred to as the non-living things being defined and classified. The mental-process participants mostly represented humankind's feelings and emotions, especially the youngsters'. The participants in the verbal processes were precisely addressed to the audience, such as world leaders, politicians, and adults, who kept telling and talking about economic growth. These participants in the verbal processes were regarded by Thunberg through the behavioral processes as the parties who ignored the youngsters or activists. The presence of humankind as participants in all of the processes shows that Thunberg hopes and wants humankind to work together to prevent climate change. Fløttum (2014) states that the climate change phenomenon is not solely an issue to be faced by scientists but also an issue to be faced by every layer of societies and experts from different disciplines. Hence, since the story is regarded as beneficial discourse, it has to be promoted and spread in society in order to raise ecological awareness.

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## APPENDIX

### *Greta Thunberg's Speech Script*

“My name is Greta Thunberg. I am 15 years old. I am from Sweden. I speak on behalf of Climate Justice Now. Many people say that Sweden is just a small country and it doesn't matter what we do. But I've learned you are never too small to make a difference. And if a few children can get headlines all over the world just by not going to school, then imagine what we could all do together if we really wanted to. But to do that, we have to speak clearly, no matter how uncomfortable that may be. You only speak of green eternal economic growth because you are too scared of being unpopular. You only talk about moving forward with the same bad ideas that got us into this mess, even when the only sensible thing to do is pull the emergency brake. You are not mature enough to tell it like is. Even that burden you leave to us children. But I don't care about being popular. I care about climate justice and the living planet. Our civilization is being sacrificed for the opportunity of a very small number of people to continue making enormous amounts of money. Our biosphere is being sacrificed so that rich people in countries like mine can live in luxury. It is the sufferings of the many which pay for the luxuries of the few. The year 2078, I will celebrate my 75th birthday. If I have children maybe they will spend that day with me. Maybe they will ask me about you. Maybe they will ask why you didn't do anything while there still was time to act. You say you love your children above all else, and yet you are

stealing their future in front of their very eyes. Until you start focusing on what needs to be done rather than what is politically possible, there is no hope. We can't solve a crisis without treating it as a crisis. We need to keep the fossil fuels in the ground, and we need to focus on equity. And if solutions within the system are so impossible to find, maybe we should change the system itself. We have not come here to beg world leaders to care. You have ignored us in the past and you will ignore us again. We have run out of excuses and we are running out of time. We have come here to let you know that change is coming, whether you like it or not. The real power belongs to the people.  
Thank you”.

Website/source: <https://www.lifegate.com/greta-thunberg-speech-cop24>

