

## Material Processes in BBC's Articles on Plastic Pollution

Autumn Windy Alwasilah<sup>1</sup>, Eva Tuckyta Sari Sujatna<sup>2</sup>, Lia Maulia Indrayani<sup>3</sup>

<sup>1</sup> Universitas Padjadjaran  
Sumedang  
[autumn19001@mail.unpad.ac.id](mailto:autumn19001@mail.unpad.ac.id)

<sup>2</sup> Universitas Padjadjaran  
Sumedang  
[eva.tuckyta@unpad.ac.id](mailto:eva.tuckyta@unpad.ac.id)

<sup>3</sup> Universitas Padjadjaran  
Sumedang  
[lia.maulia@unpad.ac.id](mailto:lia.maulia@unpad.ac.id)

### Abstract

Like many other pressing problems in today's society, plastic pollution is being investigated by linguists under the subcategory of ecolinguistics. In this context, the present study tries to identify the material process in BBC's selected articles on plastic pollution. In particular, by using the Systemic Functional Linguistics (SFL) by Halliday & Matthiessen (2014), the study qualitatively analyzes the way how material processes in SFL indicate something that has been done physically between two entities in a clause. This research explains verbs as material processes in clauses and the function of their appearance in BBC's selected articles based on transitivity analysis as part of SFL and categorizes them as creative or transformative processes. From this research, it can be seen that the material process is very useful in writing texts, especially in defining a process, whether it is creative, or transformative. From the analysis, the actor tends to change of some aspects of the existing things, rather than creating the new ones by the process.

**Keywords:** *BBC, ecolinguistics, material process, plastic pollution, systemic functional linguistics*

## 1. Introduction

Plastic pollution has become one of the most urgent environmental issues. As plastic waste accumulates in our oceans at an alarming rate, efficient and sustainable clean-up solutions are urgently needed. One solution is to develop and mobilize technologies to prevent plastic from entering waterways or collecting plastic pollution in oceans and rivers

(Schmaltz et al., 2020). The world is responsible for the ecosystem disrupts. Human activities such as deforestation, production of black carbon, overpopulation, and overconsumption affect the ecosystem.

The effect of negative human behavior that reduces the quality of the ecosystem has become the primary concern in the ecolinguistic study created in 1970 by the

American linguist Einar Haugen. His main research content is the interaction between a particular language and its environment, and Haugen believes each language has its living environment. This approach focuses on the relationship between a particular language and the ethnic groups that speak it (Li, 2022).

The issue of plastic pollution has always been a significant problem in environmental pollution, both on land and in the sea. Thus, it is always raised by the media. Journalists seek to present facts and direct subtopics that support the formation of global environmental topics (Sari & Fasya, 2023) to raise and change public awareness of nature and the environment. British Broadcasting Corporation (BBC) reported the news on its website, [www.bbc.com](http://www.bbc.com). Not just how harmful plastic pollution is but also how people deal with it. As it is known that society is very concerned about our environment and the pollution it causes (Milana, Roopa, K, & Mohan, 2020).

There is something beyond the information in every news presented by the media, as linguistics focuses on the systematic investigation of specific linguistic properties as well as characteristics of linguistic in general (Alwasilah, 1993). It includes studying function and structure, which work together since language structure is necessary to express language functions (Juliansyah, Indrayani, & Krisnawati, 2023). Therefore, the combination of functions and structure of language gives meaning to people, especially in macro linguistics. Language features such as passive voice in grammar structure and material process in Systemic Functional Linguistics can also reveal the meaning behind the clauses in media, in this research, is in ecolinguistics.

Stibbe (2015) shares the same idea that linguistics provides tools for analyzing the texts that surround us in everyday life and shape our society. These tools can help uncover hidden stories between the lines of text. Once uncovered, these stories

can be questioned from an ecological perspective: Do they encourage people to destroy or protect the ecosystems on which life depends? (Stibbe, 2015).

Transitivity concerns the processes described in a clause and the participants (actor, goal, range, and circumstance) who play a role in those processes (Halliday & Matthiessen, 2014), while material processes are active processes of doing something in the world (Stibbe, 2015).

Material process is categorized into two, creative process that is the process of doing that happens when the goal exists as something created by the process. In contrast, in a transitive process, the outcome is the change of some aspect of an already existing by the actor (Halliday & Matthiessen, 2014).

In their 2020 study, Dewi & Mahdi explored forest fires and the transitivity features of words in clauses, analyzing their function in online news using Systemic Functional Linguistics and context.

News texts depict material actions conducted by entities, written from the news writer's perspective. The research shows that material processes are beneficial for text writing, such as giving more colors, drawing more interest from the readers, giving different word meanings in different contexts, and giving more meaning to the context itself (Dewi & Mahdi, 2020).

A previous study of ecological discourse from Jack London's novel *The Sea Wolf* by Li (2022) aims to explore the ecological recycling behind the novel. Based on the analysis of transitivity under systemic functional linguistic theory, it appears that material processes are used when animals are in object positions; most of them appear in target positions with humans as the perpetrators and contain temporary meaning (Li, 2022).

Li (2022) also mentions that it is vital to analyse ecological discourse the help of a systemic functional linguistic analysis framework. This shows that humanity must conform to

the laws of nature, admire nature, and live in harmony with nature (Li, 2022). Thus, this study focuses on the material processes in BBC's selected articles on plastic pollution under theories based on experts.

## 2. Research Methods

This study carried out the descriptive-qualitative research method by Creswell through a literary analysis of the online news text (Creswell & Creswell, 2018). Descriptive-qualitative research method and analysis of document collections in natural settings are natural sources that can provide accurate information (Alwasilah, 2012), resulting in understanding the meaning, understanding the uniqueness, constructing phenomena, and finding hypotheses (Sugiyono, 2007).

The data were obtained by typing the keyword 'plastic pollution' on the search engine on BBC's official website, [www.bbc.com](http://www.bbc.com). Three articles were selected, which were published

during 2019 - 2023. They are *McDonald's paper straws 'fully recyclable' makers say* (6 August 2019), *Single-use plastic straws and cotton buds banned* (1 October 2020), and *Why Pepsi is getting sued over plastic pollution by New York state* (16 November 2023), which have 27 material processes in total.

The clauses in the articles were sorted to be categorized and labelled (Alwasilah, 2012) to find the material clause based on the theory of transitivity by Halliday and Matthiessen (2014). The material processes are then described to elaborate the action and categorize it into transformative or creative material processes using the theory in systemic functional linguistics by Halliday and Matthiessen (2014). The type of material process is obtained by the help of a dictionary to look at the definition of the verb.

## 3. Discussion and Results

The analysis in this research was done on the entire text on plastic

pollution from BBC’s selected articles to find the types of material processes and their participants of transitivity in the text. There are two kinds of processes concerning the goal or the processes of doing, namely: (1) creative processes, and (2) transformative processes. In the analysis of this research, there were twenty-seven material processes detected in the articles. The supporting definitions were taken from the Cambridge Online Dictionary to explain the verbs used in the processes taken as the data, and how they create meaning in the articles. The samples of each process and the actors are explained as follows:

**Data 1**

“It follows the fast-food giant”

It	follows	the fast-food giant
Actor	Mat. Process	Goal

Data 1 above says, “It follows the fast-food giant”. This clause is categorized as a material process since the lexical verb ‘follows’ describes a process of doing. The clause encodes actor and goal as

participants. The pronoun ‘it’, refers to McDonald’s, is labelled as actor since the material process ‘follows’ is acted by this participant, and ‘the fast-food giant’ is labelled as goal since the process ‘follow’ is directed to this participant.

The material process is categorized into a transformative material process. It is because the verb 'follow' is defined by the Cambridge Dictionary as moving behind someone or something and go where he, she, or it goes. The outcome from the clause is not something that is created by the actor. Meanwhile, it is something that has existed before.

**Data 2**

“They should be put in general waste”

they	should be put	in general waste
Goal	Material Process	Circumstance

Clause “they should be put in general waste” in data (2) also expresses material process with the lexical verb 'put' that describes some entity undertakes some action. Two

participants are involved in this clause.

'They', refers to plastic straws, is labelled as goal because the process is directed to it. While the participant 'in general waste' is marked as circumstance since it shows the location of the process.

From the analysis, the actor who is not mentioned in the clause produces a transformative material process. The verb 'put' is defined as moving something into the stated place, position, or direction (Cambridge Dictionary) and refers to the outcome of the goal moved by the actor, in this case, moving the plastic straws to a general waste. Thus, the clause in data 2 expresses an actor who creates a transformative process by putting the plastic straws in general waste.

**Data 3**

“McDonald's switched to paper in its UK branches.”

McDonald's	switched	to paper	in its UK branches
Actor	Mat. Process	Goal	Circ.

Clause “McDonald's switched to paper in its UK branches” in data (3) above has the lexical verb 'switched' that is marked as a material process since it shows a process of doing. The clause encodes an attribution involving participants 'McDonald's', 'to paper', and 'in its UK branches'. Actor is labelled to 'McDonalds' because the process 'switched' is done by this participant. Goal is labelled to 'to paper' since the process is directed to it. At the same time, 'in its UK branches' is labelled as circumstance since these adverbial groups show the manner and extent of the process.

The transformative material process is detected in this data, too. The verb 'switched' by the actor 'McDonalds' means changing suddenly or completely from one thing to another (Cambridge Dictionary) to the goal 'to plastic'. The outcome of this clause is a transformation of the material usage of the plastic straws so that this clause in data (3) is categorized into a transformative material process.

**Data 4**

“They were working with recycling companies”

They	were working	with recycling companies
Actor	Material Process	Circumstance

The clause “they were working with recycling companies” in data (4) above also has the lexical verb that shows a process of doing. The lexical verb 'working', which describes a process of doing, is defined by Cambridge Dictionary as doing a job. The clause involves two participants, 'they' as actor who performs the process, and 'with recycling companies' as circumstance that shows the extent of the process.

This clause is also categorized into transformative material processes from the transitivity analysis. The outcome is a transformation of the work with the recycling companies, not about something new that is just created.

**Data 5**

“The restaurant chain uses 1.8 million straws a day in the UK .”

The restaurant chain	uses	1.8 million straws	a day	in 2019
Actor	Mat. Process	Goal	Circumstance	

The clause in the data above shows a process of doing in the lexical verb 'uses'. The clause also encodes three participants. They are ‘The restaurant chain, which is labelled as actor since the material process is acted by this participant. ‘a day’ and ‘in 2019’ are labelled as circumstance because they show the time of the process.

The clause constructs a transformative material process from the transitivity analysis. The verb ‘uses’ shows the process of doing as putting something as a tool (Cambridge Dictionary) to produce a transformation outcome.

**Data 6**

“The move to paper straws followed a successful trial in selected McDonald's restaurants earlier in 2018.”

The move to paper straws	Followed	A successful trial	in selected McDonald's restaurants	earlier in 2018
Actor	Mat. Process	Goal	Circumstance	

Data in clause (6) also shows a process of doing manifested in the lexical verb 'followed'. Three participants are involved in this clause: actor, goal, and circumstance. The actor is labelled to the doer of the process, 'the move to paper straws'. The goal is labelled to 'a successful trial' while 'in selected McDonald's restaurants' and 'earlier in 2018' are labelled as circumstance.

The clause is also categorized into a transformative material process. The verb 'follow', which shows a process of doing, refers to go in the same direction as a road, path, etc (Cambridge Dictionary) that affects the outcome of the clause. The outcome of a transformative material process is not a new thing, but a transformation of how a particular McDonald's restaurant uses straws.

**Data 7**

“They dissolved before a drink could be finished”

they	dissolved	before a drink could be finished
Actor	Material Process	Circumstance

Data in clause (7) also shows a process of doing that is manifested in the lexical verb 'dissolve'. Two participants are involved in this clause: actor, and circumstance. The inanimate actor is labelled to 'they', refers to paper straws, since it is the one who acts, while circumstance is labelled to 'before a drink could be finished'.

The clause is also classified as a transformative material process. The verb 'dissolve', which shows a process of doing, is defined by the Cambridge Dictionary as (of a solid) to be absorbed by a liquid, especially when mixed, or (of a liquid) to absorb a solid. The outcome of this clause is a transformation of the paper straws.

**Data 8**



“A petition by irate McDonald's customers to bring back plastic straws has so far been signed by 51,000 people.”

A petition by irate McDonald's customer	has so far been signed	by 51.000 people
Goal	Material Process	Actor

The clause “A petition by irate McDonald's customers to bring back plastic straws has so far been signed by 51,000 people” in data (8) has the verb 'signed' as the sign of the process of doing. The clause also encodes participants, namely 'A petition', and 'by 51,000 people'. The deed is acted by '51,000 people', labelled as animate actor. The process is directed to 'a petition', then it is labelled as goal.

The clause is then classified as a transformative material process. The Cambridge Dictionary defines the lexical verb 'sign' that shows a process of doing as writing your name, usually on a written or printed document, to show that you agree with its contents or have written or created it yourself. The outcome of

this clause is a transformation of the goal, agreement.

**Data 9**

“Single-use plastic straws, cotton buds and stirrers are banned in England.”

Single-use plastic straws, cotton buds and stirrers	are banned	in England
Goal	Mat. Process	Circumstance

Clause “Single-use plastic straws, cotton buds and stirrers are banned in England” in data (9) above also shows a process of doing. It is manifested in the lexical verb 'are banned'. The clause also encodes an attribution involving three participants. There are 'single-use plastic straws, cotton buds and stirrers' that is labelled as goal, and 'in England' is labelled as circumstance.

A transformative material process is also detected in this clause since the process affects the outcome of the clause. Cambridge Dictionary defines

the verb 'ban' as to forbid or refuse to allow something, especially officially.

**Data 10**

“Now the ban is finally coming into place.”

now	the ban	is finally coming	into place
Circ.	Actor	Material Process	Circ.

Clause “now the ban is finally coming into place” in data (10) above shows material process that is manifested in the verb ‘is coming’. Three participants are involved in this clause, namely inanimate actor, that is labelled to ‘the ban’, ‘now’ and ‘into place’ are labelled as circumstance.

Transformative material process is also detected in this clause since the outcome is transformed from the goal. Cambridge Dictionary defines the verb 'come' as to get to a particular place.

**Data 11**

“Businesses will be asked to switch to paper-based alternatives.”

Business	will be	to switch to
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	asked	paper-based alternatives
Goal	Material Process	Circumstance

Clause “businesses will be asked to switch to paper-based alternatives” in data (11) above has the verb 'will be asked' that shows a process of doing. The clause also encodes an attribution involving two participants. They are 'business' that is labelled as goal since the process is directed to this participant, while ‘to switch to paper-based alternatives’ is labelled as circumstance since it shows the extent of the process.

The type of material process in this clause is transformative. The outcome of the process is a transformation of the plastic material that will be changed into paper material. The word 'ask' means requesting something (Cambridge Dictionary).

**Data 12**

“Hospitals, bars, restaurants and cafes will still make plastic straws available for people with disabilities or other medical needs.”

Hospitals, bars, restaurants and cafes	will still make	plastic straws available	for people with disabilities or other medical needs
Actor	Mat. Process	Goal	Circ.

The clause “hospitals, bars, restaurants and cafes will still make plastic straws available for people with disabilities or other medical needs ” in data (12) above also shows a process of doing that is manifested in the verb 'make'. The clause has three participants involved, they are ‘hospitals, bars, restaurants and cafes’ that is labelled as the actor since the process ‘make’ is done by this participant, ‘plastic straw available’ that is labelled as goal since the process ‘make’ is directed to this participant, and ‘for people with disabilities or other medical needs’ that is labelled as circumstance since it shows the extent of the process.

The clause is categorized into a transformative material process. It happens since the verb 'make' is related to take action so that you are certain that something happens

(Cambridge Dictionary). The process makes the outcome of this clause.

**Data 13**

“Five billion straws and 300 million stirrers are thrown in the bin every year.”

five billion straws and 300 million stirrers	are thrown	in the bin	every year
Actor	Goal	Circumstance	

Data in clause (13) that says “five billion straws and 300 million stirrers are thrown in the bin every year ” also shows a process of doing that is manifested in the lexical verb ‘has estimated’. Three participants are involved in this clause, actor, goal, and two circumstances. The participant ‘five billion straws and 300 million stirrers’ is labelled as actor since this participant initiated the process. Next, ‘in the bin’ and ‘every year’ are labelled as circumstance since it expresses the location and time of the process.

Data (14) also shows an example of a transformative material process.

The outcome is a transformation of of the straws and stirrers that are thrown away. According to Cambridge Dictionary, the verb 'throw' is used to send something through the air with force, especially by a sudden movement of the arm.

**Data 14**

“The UK currently uses around 2 billion cotton buds every year.”

The UK	currently	uses	around 2 billion cotton buds	every year
Actor	Circ.	Mat. Process	Goal	Circ.

Clause in data (14) that says “The UK currently uses around 2 billion cotton buds every year” also shows a process of doing that is manifested in the lexical verb ‘uses’. Three participants are involved in this clause, actor, goal, and circumstance. The actor of the process is labelled to ‘the UK’ since the UK is the one that does the action. The goal is labelled to ‘2 billion cotton buds’ since the process ‘uses’ is

directed to this participant. And the circumstance are labelled to ‘currently’ and ‘every year’ as they represent the time of the process.

Data (14) also present the example of a transformative material process. The outcome is a yearly transformation of the cotton buds in the UK that are used. According to Cambridge Dictionary, the verb 'use' is to put something such as a tool, skill, or building to a particular purpose, here is cotton buds.

**Data 15**

“A lot of retailers have already been slowly phasing out cotton buds now.”

A lot of retailers	have already been phasing out	cotton buds	now
Actor	Mat. Process	Goal	Circ.

Clause in data (15) that says “a lot of retailers have already been slowly phasing out cotton buds now” also shows a process of doing that is manifested in the lexical verb ‘have been phasing out’. Three participants are involved in this clause, actor, goal, and circumstance. The

participant ‘a lot of retailers’ is labelled as actor since this participant is the constituent of the clause who does the action. The noun phrase ‘cotton buds’ is labelled as goal since the process ‘phasing out’ is directed to this participant. Lastly, ‘now’ is labelled as circumstance as it expresses the time of the process.

Data (15) presents the example of a transformative material process. It is manifested in the verb phrase ‘have been phasing out’ which means to remove or stop using something gradually or in stages (Cambridge Dictionary).

**Data 16**

“McDonald's, which provides nearly 2 million straws for customers every day, banned plastic straws last year.”

McDonald's	banned	plastic straw	last year
Actor	Material Process	Goal	Circ.

Clause “McDonald's, which provides nearly 2 million straws for customers every day, banned plastic straws last year” in data (16) above also shows a process of doing. It is

manifested in the lexical verb ‘banned’. The clause also encodes an attribution involving three participants, actor, goal, and circumstance. The deed is acted by ‘McDonald’s’, so it is labelled as actor. The process ‘banned’ is directed to ‘a plastic straw’, it is then labelled as goal, and ‘last year’ is labelled as circumstance since it represents the time of the process.

Transformative material process is also detected in this data since the outcome of the process is a transformation of the goal, here the plastic straws in McDonald’s. The verb also does not show a creative process since it defines by Cambridge Dictionary as to forbid or refuse to allow something, especially officially.

**Data 17**

“And instead uses paper straws.”

uses	paper straw
Goal	Material Process

The clause “and instead uses paper straws” in data (17) above also has the lexical verb that shows a process of doing. The lexical verb

'uses' which describes a process of doing. A goal is involved in this clause, that is labelled to 'paper straws' since the process 'uses' is directed to this participant.

From the transitivity analysis in data 18 above, this material process is classified into the transformative material process based on the outcome, which is the transformation of the plastic to paper straws in McDonald's. Use itself is defined by Cambridge Dictionary as to put something such as a tool, skill, or building to a particular purpose.

**Data 18**

"you can get in shops."

You	can get	in shops
Actor	Material Process	Circumstance

The clause "you can get in shops" in data (18) above also has the lexical verb that shows a process of doing. The lexical verb 'can get' which describes a process of doing. Actor and circumstance are involved in this clause. The deed is acted by 'you', so it is labelled as actor. The location of

the process is expressed by 'in shops' and therefore it is labelled as circumstance.

Data (18) also presents an example of a transformative material process from the transitivity analysis. Based on the outcome, which is a transformation of the things to get in shops. The verb 'get' is defined by Cambridge Dictionary as to obtain, buy, or earn something.

**Data 19**

"You can also buy silicone straws and metal ones too."

You	can also buy	silicone straws and metal ones
Actor	Material process	Goal

Clause "you can also buy silicone straws and metal ones too" in data (19) above also shows a process of doing. It is manifested in the lexical verb 'buy'. The clause also encodes an attribution involving two participants, actor and goal. The actor of the process is 'you' since, and the goal of the process is 'silicone straws

and metal ones' since the process is directed to it.

The transitivity analysis in data 19 above classifies this material process into a transformative material process. The verb 'buy' in the clause, according to Cambridge Dictionary, is to get something by paying money for it. Here are the straws made of silicone or metal.

**Data 20**

“PepsiCo, the company that makes Pepsi drinks, is being sued by the US state of New York over plastic pollution.”

Pepsi	is being sued	by the US state of New York	over plastic pollution
Goal	Material Process	Actor	Circumstance

Data in clause (20) that says “PepsiCo, the company that makes Pepsi drinks, is being sued by the US state of New York over plastic pollution” also shows a process of doing that is manifested in the lexical verb ‘is being sued’. The clause involves three participants, namely ‘Pepsi’, ‘by US state of New York’ and

‘over plastic pollution’. Goal is labelled to ‘Pepsi’ since the process ‘sue’ is directed to this participant. Actor is labelled to ‘the US’ as the process is acted by this participant. Circumstance is labelled to ‘over plastic pollution’ since it expresses the extent of the process.

The transitivity analysis in data 20 above also classifies this material process into the transformative material process. According to Cambridge Dictionary, the verb 'sue' in the clause is to take legal action against a person or organization, especially by making a legal claim for money because of some harm that they have caused you.

**Data 21**

“PepsiCo has been accused of contaminating water along the Buffalo river.”

PepsiCo	has been accused	of contaminating water	along the Buffalo River
Goal	Material Process	Range	Circ.

Data in clause (21) that says “PepsiCo has been accused of contaminating water along the Buffalo river” also shows a process of doing that is manifested in the lexical verb ‘accused’. The clause involves three participants, namely ‘PepsiCo’, that is labelled as goal since the process ‘accused’ is directed to this participant, ‘of contaminating water’ that is labelled as range as it specifies the scope of happening, and ‘along the Buffalo River’ that is labelled as circumstance since it shows the location of the process.

Data (21) also conveys the example of a transformative material process. The outcome is the transformation of the cleaning process. The verb 'accuse' means to say that someone has done something morally wrong, illegal, or unkind directed to the goal (Cambridge Dictionary), here PepsiCo.

**Data 22**

“Last week Coca-Cola, and Nestle were accused of making misleading

claims about their plastic water bottles being "100% recycled".”

last week	Coca-Cola & Nestle	were accused	of making misleading claims about their plastic water bottles being "100% recycled"
Circ.	Goal	Material Process	Range

Clause “Last week Coca-Cola, and Nestle were accused of making misleading claims about their plastic water bottles being "100% recycled"” in data (22) above has the verb phrase ‘were accused’ that shows a process of doing in material process. The clause also encodes an attribution involving three participants, circumstance, goal, and range. ‘Last week’ is labelled as circumstance as it shows the time of the process, ‘Coca-Cola, and Nestle’ is labelled as goal since the process ‘accused’ is directed to it, then another participant is labelled as range since it specifies the scope of happening.

The transitivity analysis of data 22 above also categorizes this material process into the transformative material process. The



verb 'accuse' in the clause, according to Cambridge Dictionary, is to say that someone has done something morally wrong, illegal, or unkind.

**Data 23**

“The companies are accused of 'greenwashing'.”

The companies	are accused	of green-washing
Goal	Material Process	Range

Clause “The companies are accused of 'greenwashing'” in data (23) above has the verb ‘are accused’ that shows a process of doing in material process. The clause also encodes an attribution involving two participants. They are goal and range. Goal is labelled to ‘the companies’ since the process ‘accuse’ is directed to this participant. While ‘of green-washing’ is labelled as range as specifies the scope of a happening.

The transitivity analysis also classifies this material process into transformative material processes based on the outcome. According to Cambridge Dictionary, the verb 'accuse' is to say that someone has

done something morally wrong, illegal, or unkind.

**Data 24**

“The Attorney General's office conducted a survey along the Buffalo River in New York state”

the Attorney General's office	conducted	a survey	along the Buffalo River in New York state
Actor	Mat. Process	Goal	Circ.

Clause ‘The Attorney General's office conducted a survey along the Buffalo River in New York state’ in data (24) also expresses material process with the lexical verb ‘conduct’ that describes some entity undertakes some action. Three participants are involved in this clause. Actor that is labelled to ‘the Attorney General’s office’, goal that is labelled to ‘a survey’, and circumstance that is labelled to ‘along the Buffalo River in New York state’.

From the transitivity perspective, the clause is categorized as a creative

material process. The verb 'conduct' or keep in present verb means to organize and perform a particular activity (Cambridge Dictionary). There is a creation of something in the outcome, that is a survey along the Buffalo River.

**Data 25**

“PepsiCo manufactures at least 85 different drinks brands and 25 types of snacks and foods.”

PepsiCo	manufacture	at least 85 different drinks brands and 25 types of snacks and foods
Actor	Material Process	Goal

Data in clause (25) that says “PepsiCo manufactures at least 85 different drinks brands and 25 types of snacks and foods” also shows a process of doing that is manifested in the lexical verb ‘manufacture’. The clause involves two participants, actor and goal. Actor is labelled to ‘PepsiCo’ and goal is labelled to ‘at least 85 different drinks brands and 25 types of snacks and foods’.

The clause is also classified into a creative material process. There is a creation of the outcome, which is the products. The word 'manufacture' is defined by Cambridge Dictionary to produce goods in large numbers, usually in a factory using machines.

**Data 26**

“Microplastics have been found in the city of Buffalo”

Microplastics	have been found	In the city of Buffalo
Goal	Material Process	Circumstance

Data in clause (26) that says “Microplastics have been found in the city of Buffalo” also shows a process of doing that is manifested in the lexical verb ‘found’. The clause involves two participants, goal and circumstance. Goal is labelled to ‘microplastics’ as the process ‘found’ is directed to it, and circumstance is labelled to ‘in the city of Buffalo’ since it expresses the location of the process.

The clause is also classified into a transformative material process. There is a transformation of the

outcome, which is the microplastics. The word 'find' is defined by Cambridge Dictionary as to discover.

**Data 27**

“Microplastics happen when bigger bits of plastic break down in soil”

microplastics	happen	when bigger bits of plastic break down in soil
Actor	Material Process	Circumstance

The clause “Microplastics happen when bigger bits of plastic break down in soil” in data (27) above also has the lexical verb that shows a process of doing. The lexical verb ‘happen’ which describes a process of doing. Actor and circumstance are involved in this clause. The deed is acted by ‘microplastics’, so it is labelled as actor. ‘When bigger bits of plastic break down in soil’ is labelled as circumstance since it shows the time of the process.

Data (27) also presents an example of a creative material process from the transitivity analysis. Based on the outcome, which is new

thing from the process. The verb 'happen' is defined by Cambridge Dictionary as (of a situation or event) to come into existence; occur.

**4. Conclusions**

Based on the data analysis, it can be concluded that the use of certain verbs as the material processes, along with the participants in BBC's articles may have different effects on the whole context of the articles. The actor is mostly labelled to animate actor such as companies like McDonald’s and PepsiCo, people in UK, and the officers who play an important role in plastic pollution. Inanimate actors were also detected, such as paper straw, the single use items, or microplastics. Some of the clauses also in passive, and the actor is not mentioned.

The goals impacted by the processes were brought by the doing, or they have existed prior to the doing, which is categorized as creative or transformative process. And from the

analysis, material processes in BBC's selected articles on plastic pollution mostly show transformative material process, there are twenty-four, out of twenty-seven processes. The transformative material process in BBC's selected articles on plastic pollution reports the transformation of some aspect of plastic pollution that is already exist, such as the transformation of the plastic straws into the silicone, metal, or paper ones. Three process also convey a creative process, one of them is manufacturing products that is done by PepsiCo. It can be concluded that the actors tend to change of some aspects of the existing things, rather than creating the new ones by the process. The circumstances in the clauses mostly show time and location of the processes which give details about the processes.

The research also conveys that the material process of transitivity in systemic functional linguistics is one linguistic feature useful for conveying new stories, particularly in ecolinguistics. It helps to indicate the

types of processes that participants are involved in and whether they are taking an active role, especially the actor in the material process.

## References

- Alwasilah, A. C. (1993). *Linguistik Suatu Pengantar*. Bandung: Angkasa.
- Alwasilah, A. C. (2012). *Pokoknya Kualitatif* (7th ed.). Bandung: Pustaka Jaya.
- Bondaroff, T. P., & Sam., C. (2020). Masks on the Beach: The impact of Covid-19 on Marine Palstic Pollution. *Oceansasia*, 1-79.
- Creswell, W. J., & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative adn Mixed Methods Approaches. In *Journal of Chemical Information and Modeling* (Vol. 53). Retrieved from file:///C:/Users/Harrison/Downloads/John W. Creswell & J. David Creswell - Research Design\_ Qualitative, Quantitative, and Mixed Methods Approaches (2018).pdf%Afile:///C:/Users/Harrison/AppData/Local/Mendeley Ltd./Mendeley Desktop/Downloaded/Creswell, Cr
- Dewi, O. C., & Mahdi, S. (2020). Material Processes in the Singaporean Online News on Forest Fires Issue. *International*

- Journal of Systemic Functional Linguistics*, 3(1), 30-36.  
<https://doi.org/10.55637/ijfsl.3.1.1796.30-36>
- Halliday, M. A. K., & Matthiessen, C. M. I. M. (2014). *Introduction To Halliday ' S Introduction To Functional*.
- Juliansyah, E., Indrayani, L. M., & Krisnawati, E. (2023). Logico-Semantic Relation in The World Health Organization ' s Covid -19 Myth-Busters. *Jomantara*, 3(2), 125-134.
- Li, Y. (2022). The Ecological Discourse Analysis of Jack London's *The Sea Wolf* from a Systemic Functional Perspective. *International Journal of Education and Humanities*, 5(2), 278-284.  
<https://doi.org/10.54097/ijeh.v5i2.2185>
- Milana, B., Roopa, K, V., & Mohan, S. (2020). Green Consumerism: A Special Emphasis on Purchase Behaviour towards Eco-Friendly Products in Bengaluru, India. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(6), 716-719.
- Nasution, A. Y. (2020). Analisis Kalor Pada Alat Pengolah Sampah Plastik Dengan Metode Pyrolysis Dengan Perbandingan Tipe Sampah Plastik. *Suara Teknik : Jurnal Ilmiah*, 11(2), 25.  
<https://doi.org/10.29406/stek.v11i2.2431>
- Sari, D. G., & Fasya, M. (2023). Indonesian Jurassic Park ' S Komodo National Park Project Controversy ( a Critical Discourse Analysis. *Jomantara*, 3(1), 70-79.
- Schmaltz, E., Melvin, E. C., Diana, Z., Gunady, E. F., Rittschof, D., Somarelli, J. A., ... Dunphy-Daly, M. M. (2020). Plastic pollution solutions: emerging technologies to prevent and collect marine plastic pollution. *Environment International*, 144(November).  
<https://doi.org/10.1016/j.envint.2020.106067>
- Stibbe, A. (2015). *Ecolinguistics: Language, Ecology and the Stories We Live*. In *Routledge*. New York: Routledge.
- Sugiyono. (2007). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- Author 1 Autumn Windy Alwasilah, Student at the English Linguistics Graduate School, Padjajaran University.
- Author 2, Eva Tuckyta Sari Sujatna, Lecturer at the English Linguistics Graduate School, Padjajaran University.
- Author 3, Lia Maulia Indrayani, Lecturer at the English Linguistics Graduate School, Padjajaran University.