Experiential Metafunction: Representing Environmental Degradation

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Abstract---The constant exploration and exploitation of crude oil in the Niger Delta area of Nigeria had had a negative consequential effect on the entire ecosystem of the region. This has been a source of national and international concern and has attracted the attention of scholars from several disciplines, within and outside the region. Creative writers were not left out and this had given birth to which poetry was one of its most prolific genres. Though regional, the literature in general and poetry, in particular, had attracted myriads of attention from eco-literary criticism while the language of the poems had been understudied. Therefore, this study is a linguistic analysis of Niger Delta environmental poetry. Seven poems were purposefully selected from Tanure Ojaide’s Songs of Myself: Quartet (2015) and Nnimo Bassey’s We Thought It Was Oil but It Was Blood (2002). The Hallidayan Transitivity system of the Experiential meaning of the clause was adopted as a linguistic framework to show how the ecological realities of the region were encoded in the structure of the clause. The study revealed that the nature of the processes and the participants’ roles aptly encoded ecological degradation in the structure of the clause.

Keywords---ecological degradation, environmental poetry, experiential meaning, language grammar, language issues, linguistic analysis, linguistic evidence, linguistic framework, transitivity system.

Introduction

The Niger Delta region is situated in the extreme south of Nigeria and on the west coast of Africa. It is cartographically defined by the River Niger and its home states include Bayelsa, Delta and Rivers. Politically and economically, the Niger Delta region has six additional oil-producing states which include Edo, Imo, Abia,
Anambra, Ondo, Cross Rivers and Akwa Ibom States (Trinya, 2012). The region is known for its oil wealth which accounts for over 95% of the revenue accruing to the Nigerian economy. Over the years, both the cartographic and the political-economic of the Niger Delta have suffered from environmental crises based on oil exploration, exploitation, deforestation, blowouts, toxic pollution, flares and spills from oil pipelines among other activities of the local and multinational oil companies.

The resultant environmental crisis of ecocide, toxic and arsenic pollution of streams, rivers, seas, bio-extinction and degradation of farmlands and the entire flora and fauna of the region has attracted the attention of writers in the different genres of literature. This literature is referred to as Niger Delta Literature, a form of regional literature (Maledo, 2019; Mee & Seng, 2014; Monbec, 2020) with its confrontational tone, exhibiting a combative spirit associated with the literature of protest (Nwahunanya, 2011). Ojaide (2015) defines this literature as “works of literature that have been produced by both indigenes of the Niger Delta and outsiders about the region. These literary works are either set in the region or take their themes from the experiences of the region’s people”. Among the writers of this literature who have brought the ills of the region to national and international awareness in the genre of poetry are Gabriel Okara, J.P. Clark, Christian Otobotekere, Ogaga Ifowodo, Tanure Ojaide, Sophia Obi, G. Ebinye Ogbowe, Obari Gomba, Nimmo Bassey, Ibiwari Ikiriko, Ebi Yeibo and Hope Eghagha among others. Among these, Tanure Ojaide and Nimmo Bassey have been selected for this study. This selection is purposefully based on their prolific nature and the commitment of both the poets and their poetry to the subject matter of this study: environmental degradation.

The much critical and scholarly attention paid to the literature of this region in general and poetry, in particular, has been recent. It can be traced to the conferences organised around G. G. Darah, Sam Ukala and Tanure Ojaide at different times in 2008, Tess Onwueme in 2009 and the winning of both national and international prizes by creative writers from the region (Nwahunanya, 2011; Donohue, 2012; Mirzahoseini et al., 2015). Okunoye (2008) sees the condition of the people of the oil-rich Niger Delta as an experience that has elicited a remarkable poetic response in recent times and that the scholarly response to the Niger Delta situation has been remarkable.

A major contribution to the critical engagement of the Niger Delta literature is Nwahunanya (2011) which is a collection of forty-three critical essays focusing on the writings on the region. Among these, fourteen essays focus on poetry but none of them is from the point of view of language. More recent is Ojaide and Ojaruega (2021) which consists of twenty-two essays that are silent on the language issues on the literature of the region. Aghoghwia (2014) is a study that seeks to understand the ways that environmental concerns and the phenomenon of oil production in the Niger Delta are captured in contemporary literary representations. In particular, he states that Nimmo Bassey’s We Thought It Was Oil But It Was Blood walks a thin line between commitment to poetry and commitment to the struggle of environmental activism in bringing issues of social and environmental justice into the public sphere. Agofure (n.d) asserts that Nimmo Bassey’s poetry as envisioned in We thought it was Oil but it
was Blood brings to the fore the environmental injustices, degradation, underdevelopment combined with the irreversible loss of innocence on the Nigerian landscape convulsed by human and technological change. Adopting Lawrence Buell’s second-wave eco-critical theory, Ohwawworhua and Orhero (2019) examine Nnimo Bassey’s I will not Dance to Your Beat and Albert Otto’s Letters from the Earth to expose ecological crimes and human injustice. The study shows how the poets channel their impulse to the redemption of the environment and save man from the likely implication of not preserving and caring for the ecosystem.

Deploying Rob Nixon’s concept of slow violence and environmentalism of the poor, Egya (2016) analyses poems by poets from the region which have as their theme the plight of the people and their environment in the wake of oil production and demonstrates the consummate activism inherent in the poetry of the region. Nwagbara (2010) states that Tanure Ojaide’s poems are illustrations of eco-critical literature which is concerned with the nature of the relationship between literature and the natural environment and that Ojaide sees it as his duty to expose, reconstruct, and negate the actualities of environmental degradation in the Niger Delta region of Nigeria. Usanga (2018) examines Ojaide’s fusion of oral traditions of the Urhobo people of the Niger Delta region and the modern written form to evoke a distinct petrol-lore in his collection Song of Myself: Quartet. He concludes that being both traditional and contemporary, Ojaide fuses orality with environmental advocacy to derive a form of poetry that criticises, educates and raises an objection against environmental degradation. Adopting a structuralist semantic approach, Maledo (2018) studies hyponymic lexical relation in the presentation of Niger Delta issues in Tanure Ojaide’s poetry. The study reveals that both the human and non-human inhabitants of the region and its flora and fauna are destroyed by oil exploration and exploitation activities.

From the foregoing, one can deduce that a brief critical response to the poetry of Tanure Ojaide and Nnimmo Bassey as ecologically sensitive poetry concerned with the devastating effects of oil exploitation and exploration in the Niger Delta region has been evaluated. Most of the studies are eco-literary. Therefore, this study adopts a linguistic approach as a template to analyse selected poems from Tanure Ojaide’s Song of Myself: Quartet (2015) and Nnimmo Bassey’s We thought it was Oil but it was Blood (2002) to show how the poets encode their environmental concerns in the structure of the English clause.

**Halliday’s experiential metafunction**

The Hallidayan Systemic Functional Grammar views language as a social activity that takes place within a situational context and fulfilling several different functions (Morley, 2000; Mortensen, 1992; Taverniers, 2005). It sees the particular form taken by the grammatical system of a language is closely related to the social and personal needs that language is required to serve. And to bring this out, it is vital to look at both the system and functions of language at the same time (Halliday, 1970; 1993; 1995). The grammar identifies three metafunctions of language with their situational correlates. The ideational metafunction correlates with the field of discourse while the interpersonal and textual metafunctions correlate with tenor and mode of discourse respectively.
The ideational function serves for the expression of content, that is, of the speaker’s experience of the real world, including the inner world of his consciousness. The interpersonal metafunction serves to establish and maintain social roles while through the textual metafunction language provides for making the link with itself and with features of the situation in which it is used (Halliday, 1970).

The ideational metafunction further subdivides into experiential and logical functions. According to Halliday (2020), experiential function affords the speaker a means of expressing the propositional content of an utterance or a means of communicating ideas. Through this function, language leads structure to experience and helps to determine ways of looking at things. The logical function relates the propositional content and ideas to each other through coordination, subordination, apposition and modification, among others (see Halliday, 1971; Morley, 2000). The Experiential sub-component of the ideational metafunction is the pivot of this study.

The grammar of the experiential function of language is the grammar of the clause. According to Halliday & Matthiessen (2013), there are three strands of meaning in the clause based on the three metafunctions of language (also, see Thompson, 2014; Fontaine, 2013). A clause has meaning as a message and the Theme is the point of departure for the message. A clause has meaning as an exchange, a transaction between speaker and listener and the Subject is the warranty of the exchange. And a clause has meaning as a representation of some processes in ongoing human experience and the Actor is the active participant in that process. This last strand of meaning in the clause is the experiential meaning through which the clause is seen as a flow of events or a configuration of a process, participants involved in it and any attendant circumstances (Halliday & Matthiessen, 2013). The Transitivity system is an aspect of the ideational metafunction of language used to analyse the Experiential meaning of a clause. Traditionally, the Transitivity system is used to classify verbs as to whether they take an object (complement) or not. Those that take objects are classified as transitive while those that do not take an object are termed intransitive. In Hallidayan grammar, it refers to “the representation in language of PROCESSES, the PARTICIPANTS therein and the CIRCUMSTANTIAL features associated with them” (Adejare, 2015; Pradhana & Oeinada, 2021). Transitivity deals with the ways meanings are encoded in the clause and how different types of processes are represented in language. It picks out three key components of processes in the clause. The first is the Process itself, realised in the clause by the predicator. The second is the Participant(s) associated with the process, typically realised by the nominal group. Less importantly is the Circumstances associated with the process. This third element is expressed by prepositional and adverbial groups (Simpson, 2004; Lipovsky, 2006). Six process types are identified in the literature of the Transitivity system. These are Material, Mental, Relational, Verbal, behavioural, and Existential processes.

Material processes are the doing, it involves physical activity. Its major participant types are Actor, Goal, Beneficiary and Scope, (with Range and Initiator as minor types). The Actor is the obligatory performer of the actors involved in the Process. The Goal, if available in the clause, is the entity impacted upon by the action of
the process while the Beneficiary if also available is the receiver of the action. Mental processes involve the process of sensing. It has to do with "something that goes on in the internal world of the mind" (Thompson, 2014; Koroliova et al., 2021). Its participant types are Senser and Phenomenon. The Senser is usually a sentient being in whose mind the process occurs while the Phenomenon is the entity that is sensed. It can be a human or a non-human entity. The third, Relational processes are processes of being usually expressed by the verb BE whose function is to signal the existence of a relationship between two entities in a clause. It is of two types in terms of its participant types: the Attributive relational process has Carrier and Attribute as its participant types while the Identifying Relational process has Identifier and Identified or Token and Value as participant types. The available type in our data is the Attributive relational process of which there is an Attribute, usually an adjective, and a Carrier of the attribute which could be a human or a non-human entity.

Verbal processes are the processes of saying and the participant types associated with it are Sayer, a human participant who produces the speech, the Verbiage, which is what is said and the Receiver which is an entity to whom the speech is addressed. The Behavioural processes represent outer manifestations of inner workings; it is the acting out of processes of consciousness and physiological states (Halliday, 1994). Behavioural processes represent psychological or physiological behaviour and lie between the material and mental processes. It involves a single participant type: the Behaver (Zahoor & Janjua, 2016). One of the main reasons for setting up this category is that they allow us to distinguish between purely mental processes and the outward physical signs of those processes (Simpson, 2004). The last is Existential processes. As the name implies, it expresses the existence of an entity without predicting anything. It has only one participant type which is the Existent and the word "There" is needed as Subject (Thompson, 2014).

Circumstances are the third element of the clause as representation. It is represented by the adverbial and prepositional groups and it is less obligatory to the Process than the Participants. Though peripheral to the clause, circumstantial information carries the semantic load and provide the background against which the processes take place. It deals with setting, time, place, condition, and manner in which the process is implemented and other people and entities accompanying the processes (Bloor & Bloor 2004; Thompson, 2014). The above points underscore the relevance of Circumstances in our data as it helps to provide physical, spatial, temporal, situational and other environmentally related information relevant to the interpretation of the experiential meanings in the clause. Table 1 is a summary of the six Process types with their Participant roles and circumstantial information where necessary. The examples are drawn from our data.
Table 1
Processes and participant types with examples from our data

<table>
<thead>
<tr>
<th>Process</th>
<th>Meaning</th>
<th>Participants</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>doing, happening</td>
<td>Actor, Goal, Beneficiary,</td>
<td>C41. but the actor brought material affliction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scope</td>
<td>goal: creative to the cheerful river beneficiary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C86. Escape material the raging flames scope</td>
</tr>
<tr>
<td>Mental</td>
<td>Sensing (e.g. feeling,</td>
<td>Senser, Phenomenon</td>
<td>C54. You sense can imagine mental what we wish despoilers of the land</td>
</tr>
<tr>
<td></td>
<td>thinking)</td>
<td></td>
<td>phenomenon</td>
</tr>
<tr>
<td>Relational</td>
<td>being</td>
<td>Carrier, Attribute</td>
<td>C80. Now cir: time the sky carrier is a relational ablaze attribute</td>
</tr>
<tr>
<td>(Attributive)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioural</td>
<td>behaving</td>
<td>Behaver</td>
<td>C13 The air behaver sweats behavioural from uncontrolled fires and toxins</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>cir: condition</td>
</tr>
<tr>
<td>Verbal</td>
<td>saying</td>
<td>Sayer, Receiver, Verbiage</td>
<td>C1. The multitude of fish sayer used to express verbal gratitude verbiage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>to the creeks and streams receiver</td>
</tr>
<tr>
<td>Existential</td>
<td>existing</td>
<td>Existent</td>
<td>C25. There was existential a time you followed the water queen to her</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>palace existent</td>
</tr>
</tbody>
</table>

Transitivity analysis is well suited for the present study of Niger Delta poetry as it attempts to investigate how the poets encode their experiences and world views of environmental pollution and general ecological degradation in the structure of the clause. Revealing the process types and the participant roles involved in the processes will go a long way to expose the nature and the extent of the damages done to the ecology of the region and make a case for environmental justice. A transitivity study will also give linguistic evidence to the environmental carnages going on in the region.

Methods

The study is a close textual analysis with a special focus on how the poets encode ecologically sensitive information in the structure of the clause to portray environmental degradation in the selected poems. Seven poems are selected from Tanure Ojaide’s *Songs of Myself: Quartet* (2015) and Nnimo Bassey’s *We Thought It Was Oil But It Was Blood* (2002). This selection is based on their thematic preoccupations and reflections of the ecological issues of the region. The choice of the poets was also based on their pivotal role and commitment not only in the emergence of Niger Delta literature in general and poetry in particular but also in the affairs and concerns for the Niger Delta environment. In all, the selected poems are split into 131 clauses since the clause is the unit of analysis for experiential meanings. They are then analysed into their Process types, Participant roles and circumstantial information. Observing that some relevant features of the clause may not be explicitly present, such features are presented and enclosed in square brackets for ease of analysis. The clauses are serially numbered from C1 to C131 and attached at the end of this paper as an appendix.
Data interpretation and discussion

Table 2 is the frequency distribution of the Process types in the 131 clauses from the six poems selected for the study.

Table 2
Frequency distribution of the six process types

<table>
<thead>
<tr>
<th>Process types</th>
<th>Material</th>
<th>Relational</th>
<th>Verbal</th>
<th>Behavioural</th>
<th>Mental</th>
<th>Existential</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>87</td>
<td>20</td>
<td>10</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>131</td>
</tr>
<tr>
<td>Percentage</td>
<td>66.41%</td>
<td>15.27%</td>
<td>7.63%</td>
<td>6.11%</td>
<td>2.29%</td>
<td>2.29%</td>
<td>100</td>
</tr>
</tbody>
</table>

As Table 2 shows, the six process types are identifiable from the data. Material Process, the largest and the most diverse intransitivity (Thompson 2014:96), is 87 in number, accounting for 66.41% of the clauses. This is distantly followed by 20 Relational processes accounting for 15.27%. Verbal processes are 10, making up 7.63% of the entire clauses. Behavioural processes are 8 in number, making up 6.11% while Mental and Existential process are 3 each with 2.29% respectively. In what follows, a detailed analysis of the process types with their attendant’s Participants types is undertaken to show how the poets encode the ecological issues of the Niger Delta environment in the structure of the clause.

Material process

Material processes dominate the selected poems as sown in Table 2. These are processes of doing, which involves physical activities. Its dominance in our data underscores the prevalence of different types of physical activities and goings-on in, within and around the Niger Delta ecological environment as is explicit in the following:

C5. the undergrowth actor swam material with a world of its circ: accompaniment
C6. but now circ: time regular blowouts and flares actor burn material the forest goal: transformative
C41. but the actor brought material affliction goal: creative to the cheerful river beneficiary
C79. Leaping tongues actor lick material roofs, farms goal: transformative
C98. Because the oil actor only flows material when the earth bleeds circ: time
C129. These pipes actor dry material our lands goal: transformative

As the clauses show, the verbs swam, burn, brought, lick, flows and dry are dynamic/activity verbs denoting Material process. The Circumstantial information in each clause shows that they are physical activities going on in the despoliation and pollution of the Niger Delta environment. Material processes have the transitivity structure of Process + Actor + Goal + Beneficiary (and Scope, Range, Initiator in some cases). In what follows, each of these is examined as they manifest in the Material process clauses.
**Actor**

The Actor in a Material clause may be explicitly expressed or not. It can also be animate or inanimate. Out of the 87 Material clauses, 77 have explicitly expressed Actors while 10 have no explicit Actors. C38 is a non-finite clause. C64 is a passive clause therefore the Actor is deleted through the process of passivisation. C82, C84, C86, C124, and C126 are imperative Material clauses and thus, they have no explicit Actor. These Material clauses are used to direct or command the inhabitants of the Niger Delta region to run away from the devastated environment as is seen in the following examples.

C82. Flee material the flames scope  
C83. Dive material into the rock cir: place  
C84. Fly! material

C102 and C103 are imperative in appearance, however, the implied Actor “we” and the finite “must” which are not explicitly expressed are recoverable from the context of C101.

C101. We actor must lift material the light goal: transformative  
C102. quench material their gas flares goal: transformative  
C103. expose material their greed goal: transformative

These Material clauses are calls for protest against the agents of environmental desecration in the Niger Delta. Out of the remaining 77 clauses, 30 have human agents as Actors while 47 have non-human agents as Actors. Of importance in the use of human agents are those Actors who, in combination with the Material process verbs, are agents of environmental degradation. Some examples include.

C24. The people actor are dying material from the loss of divine sustenance cir: condition  
C32. The oil lords actor drowned material suppliants goal transformative in loud reports of Gunfire cir: manner.  
C42. The actor brought material flames of fear goal: creative to the marvellous forest beneficiary  
C43. The actor pissed and pissed material barrels of arsenic goal: creative into the current beneficiary until it is no longer the ageless river sung but a cesspool cir: duration  
C45. The actor stripped and stripped material the forest naked goal: transformative of its evergreen sui t heir: matter until it is no more a forest but a sand field cir: duration  
C100. The actor work material in the dark cir: time  
C101. We actor must lift material the light goal: transformative

In C24, the Actor, "the people" are involved in the Material process of dying resulting from Circumstantial information of loss of their natural habitat and source of livelihood to oil exploration and exploitation by the oil lords as we can see from the. "The oil lords” C32 and the “they” in C42, C43, C45 and C100 show human Actors as agents of environmental degradation and pollution while the use of "we" in C101 is to salvage the environment by exposing the evils of the oil lords
and their cohorts who work in the dark. The 47 non-human Actors also have ecological implications.

C3. The bird’s actor now cir: time live material in fear cir: manner of no nest to return to cir: location
C6. but now cir: time regular blowouts and flares actor burn material the forest goal: transformative
C11. At night cir: time gas flares actor rob material it goal: transformative of magnificence cir: matter
C15. The air actor is reeling material from the smoke-smothering rack cir: cause
C20. The sky that once dispensed abundant light and rain actor now cir: time lives material
Infuriated goal: transformational with fumes cir: accompaniment in a troubled state cir: location
C75. Dynamites actor rocked material the storehouse of life goal: transformative
C79. Leaping tongues actor lick material roofs, farms goal: transformative
C116. environmental scars traced by seismic lines and illegal loggers transnational
eco-devourers actor alienate material us goal: transformative from our land cir: location
C128. These ducts actors burrow material into our hearts cir: location

As seen, “The birds”, “The air” and “The sky that once dispensed abundant light and rain” are non-human Actors representing features of the destroyed environment. The rest Actors in the other clauses aptly portray the Actors as agents of environmental destruction in the Material process clauses. “Regular blowouts and flares” in C6, “gas flares” in C11 and “Leaping tongues” in C79 stand for gas flares and constant oil spillage fire that burn and destroy the ecosystem. “Dynamites” in C75 as Actor stand for all explosive devices used by oil prospecting companies to blast the soil in their quest for oil. In this instance, it is a very destructive agent.

Goal

Halliday et al. (2014) state that “the Goal is the participant that is impacted by the process” while Fontaine (2013:74) defines Goal in a Material process clause as “the one impacted upon or affected by the activity”. It is the entity that is affected by the process. A Material process may or may not have a Goal depending on whether the verb is used transitively or intransitively in the traditional sense. Thus, C47, a Material clause has no Goal (intransitive) while C41 has Goal (transitive). In those clauses without Goal, the Actor acts and the action remains with it; any other relevant information in such a clause is provided by the Circumstances. This is exemplified below.

C24. The people actor are dying material from the loss of divine sustenance cir: condition
C59. the woodpecker actor slips material underground cir: location
C73. How cir: manner can Rex Lawson actor resurrect material with a sweeter voice? cir: accompaniment
C78. Belching dragons actor attack material
“The people” in C24 above represent the aborigines of the Niger Delta; they are dying due to the loss of their primordial environment to poachers, exploration and exploitation as we can retrieve from the circumstantial information. In C59, “the woodpecker” is part of the ecosystem that is being decimated. The Material actions of these Actors are not transferred to any object, they suffer the action of the process. C73 is a rhetorical question. The impossibility of Rex Lawson, a renowned highlife musician from the region, to resurrect underscores the denial of freedom of expression and the incarceration of the eco-activist of the region. This fact is made obvious by the hanging of one of the leading activist of the region, Ken Saro-wiwa, by the Sanni Abacha’s military administration in 1993. The attack dog of the conglomerate oil companies is the Actor in C78; the Goal which is not explicitly stated is the people and the environment of the region. Like the Actor, the Goal in a Material clause can be human or non-human. In our data, the human Goals are 10 while the non-human Goals are 39. The clauses below show the effect of the use of human entities as Goals.

C115. Facial marks initiator help folks actor pick out material members of the clan goal: transformative
C116. environmental scars traced by seismic lines and illegal loggers transnational eco-devourers actor alienate material us goal: transformative from our land cir: location
C118. Facial marks actor beautify material our folk's goal: transformative from our land cir: location
C121. slave marks, hellish scars ... alienate material us goal: transformative from our land cir: location

In C115 and C118, “members of the clan” and “folks” are synonyms. As Goals, they have similar effect from the different processes. In C118 and C121, the Goal is “us” and as Goals, they do not just suffer the action, they bear the burden of the process as the people are now seen as strangers in their land. The non-human Goals are either destructive agents or aspects of the ecosystem thus.

C6. but now cir: time regular blowouts and flares actor burn material the forest goal: transformative
C42. The actor brought material flames of fear goal: creative to the marvellous forest beneficiary
C63. The oko bird actor no longer fills material the creeks goal: transformative with okotudun Okotudun cir: accompaniment
C64. the water drums and currents goal clogged material by spills and blowouts cir: C101. We actor must lift material the light goal: transformative
C102. Quench material their gas flares goal: transformative

In the above, the non-human Goals in C6, C63 and C64 are aspects of the environment. The non-human Goal in C42 is a destructive agent of the oil explorers while the Goals in C101 and C102 are meant to expose and put an end to the activities of the destroyers of the environment.
Transformative and creative goals

Among the Material clauses with Goal, a distinction can be made at a more delicate level of analysis as to whether the Goals are transformative or creative. Processes that bring Goals into existence are creative while those that are done to existing Goals are transformative (Thompson, 2014). Following this, 8 Goals are transformative while 32 Goals are creative. The significance of this is that both the creative and the transformative Goals have a dangerous effect on the environment. For instance, the creative Goals pollute and burn the ecosystem thus:

C41. but the actor brought material affliction goal: creative to the cheerful river beneficiary
C42. The actor brought material flames of fear goal: creative to the marvellous forest beneficiary
C43. The actor pissed and pissed material barrels of arsenic goal: creative into the current beneficiary

As the above shows, the creative Goals are dangerous and destructive to the Beneficiaries which are all parts of the ecosystem. Transformative Goals also hurt the primordial Niger Delta environment. This can be seen in the following examples.

C6. but now cir: time regular blowouts and flares actor burn material the forest goal: transformative
C11. At night cir: time gas flares actor rob material it goal: transformative of magnificence cir: matter
C79. Leaping tongues actor lick material roofs, farms goal: transformative
C32. The oil lords actor drown material supplicants goal transformative in loud reports of Gunfire cir: manner
C116. environmental scars traced by seismic lines and illegal loggers transnational eco-devourers actor alienate material us goal: transformative from our land cir: location
C126. Link material those hands goal: transformative across the seas cir: location
C127. Let's actor block material these ducts goal: transformative with our collective fists cir: accompaniment

Here, the Material process of burning transforms the forest negatively in C6. In C11, "it" refers to "the moon" in C10. The Material Process of robbing by "gas flares" defaces the moonlight. Also for C79, the Material process of licking by fire destroys homes and farms. The same pejorative transformation applies to the Goals in C32 and C116. It is only in C126 and C127 that we see the use of transformative Goals to call for unity and cooperation to salvage the environment by attempting to block oil pipes.

Beneficiary, scope and initiator

Among the other participant types in the Material process clauses in our data, 3 have Beneficiary, 4 have Scope, and 2 clauses have Initiator. The beneficiary is the participant that benefits from the processor are a recipient in the process
The three manifestations of this participant in our data are given below.

C41. but the actor brought material affliction goal: creative to the cheerful river beneficiary
C42. The actor brought material flames of fear goal: creative to the marvellous forest beneficiary
C43. The actor pissed and pissed material barrels of arsenic goal: creative into the current beneficiary until it is no longer the ageless river sung but a cesspool cir: duration

As this analysis show, The Beneficiaries of the processes in the three clauses are environmental features and what they receive are afflictions, fire and dangerous pollutants. This, to a large extent, underscores the theme of ecological devastation in Niger Delta poetry. The scope is not in any way affected by the performance of the process. It indicates the domain over which the process takes place or it construes the process itself (Halliday & Matthiessen, 2014; Fontaine, 2013). There are 4 instances of Scope in our data and 2 of them are analysed here.

C82. Flee material the flames scope
C86. Escape material the raging flames scope

As seen, the domains of the processes in the two imperative clauses are “the flames” and “the raging fire” devastating the natural environment of the region. This, the poet says, the people should run away from. The two instances of the use of Initiator are in C115 and C119. Here, the poet tries to make a distinction between the utility values of “Facial marks” and the hellish nature of “environmental scars”. As used, the Initiator “They” in C119 has “Facial marks” in C118 as its referent. And it functions as an Initiator in the clause as does “Facial marks” in C115.

**Relational process**

There are 20 Relational processes in our data and the identifiable sub-type is the attributive Relational process with its Attribute and Carrier participant types. Relational process of this type enables the poets to encode the decimation of the features of the ecosystem of the Niger Delta region as shown.

C14. The breeze carrier [is] [relational] no longer a fan but a blowing firebrand attribute
C46. I carrier is relational no more a forest but a sand-field attribute
C57. the bird’s carrier fall relational silent carrier in the delta cir: location
C66. the earthworm carrier has been relational poisoned attribute with seepage and percolation of wastes, cir: accompaniment
C67. the insect population carrier has been relational decimated attribute
C80. Now cir: time the sky carrier is a relational ablaze attribute
C120. Environmental scars carrier are relational death marks, forced, alien, wicked, hateful attribute
C122. Now cir: time, we carrier are relational strangers attribute to our soil cir: location

The Carrier and Attribute in C14 above show what the Niger Delta atmosphere has become. The air has lost its soothing and cooling function and has become a
firebrand due to excessive gas flaring and oil spillage fire in the region. In C46, "it" refers to "the forest" recoverable from the context of C45. This indicates the wanton devastation of the forest of the region by oil exploration activities with its attendant fire outbreaks and gas flaring. The Attribute and Carrier in C57, C66 and C67 help to foreground the extent of damages done not just to the forest but also its inhabitants: the birds have lost their voices and homes, the earthworms and other burrowing organisms have been poisoned by oil wastes and the insects have been greatly reduced. And "the sky" carries the attribute "ablaze" to underscore the dangers and effects of constant gas flaring to the atmosphere. The nature of the Attribute and Carrier in C120 shows truly what the scars caused by the oil companies truly are: they signify everything evil and unacceptable by the people. All these have changed the structure and configuration of the ecosystem and the people who are displaced now see themselves as strangers in their land as we have in C122.

**Verbal Process**

There are 10 identifiable Verbal process clauses in our data. As noted earlier, the participant types in a Verbal process clause are Sayer, Receiver and Verbiage. Though the process of saying is purely human, both human and non-human entities are made to engage in this process given the nature of our data as poetic text. All have a negative connotation concerning the plight of the Niger Delta environment.

C19. The soil sick from blowouts, we sayer **groan** verbal from burns cir: condition
C72. Who sayer can lisp verbal God's wild children's voices verbiage amidst flares, wheezes, and hisses cir: condition?

C19 and C72 have human entities as Sayers. In C19, the Verbal process depicts pain being suffered by the people of the region as a result of the constant burning of the environment. C72 is a rhetorical question and it portrays the decimation of the voices of the birds, animals, fishes and other features of the environment due to constant gas flares as we can observe from the Verbiage and the circumstantial information. The non-human Sayers make the theme of environmental degradation to be more prominent as we can see below.

C1. The multitude of fish sayer used to express verbal **gratitude** verbiage to the creeks and Streams receiver
C33. The glorious land of plenitude in folksongs sayer used to praise verbal the good luck it was blessed with receiver

In the above clauses, "fish" and "land" are the Sayers and the Verbal processes are "express" and "praise". C1 has verbiage: "gratitude". Both have receivers: "creeks and streams" for C1 and "the good luck of the land" for C33. The finite auxiliary, "used to", shows that these Verbal processes of expressing gratitude and of praising are in the past as constant pollution and gas flaring has made the creeks, the streams and the land lose their natural glory. Thus, the moon sayer can no longer brag about verbal its bounty verbiage (C10), the sun sayer laments verbal the loss of its bright dominion verbiage (C9) and all the voices of the land sayer muffled verbal (C61).
**Behavioural process**

Also, the Behavioural process is purely human but we have non-humans engaging in this process in our data. Thus, out of the 8 behavioural processes, 2 are human while 6 are non-humans. C108 shows human behaviour as a result of suffocation from poisoned air and inhalation of gaseous and other poisonous substances from oil exploitation and exploration activities: *but in Ogoniland*, we *can’t even breathe* (C108). Non-human Behavers equally affords the poets a means of encoding the environmental realities of the region as we have in the following clauses.

C13 The air *behaves* behaviourally from uncontrolled fires and toxins *cir: condition*
C34. Today *cir: the time it* behaves *weeps* behaviour lavishly *cir: the manner in the afflicted death* *cir: condition*
C74. The earth *behaves* gassed behaviourally

In C13, the air is the Behaver and the reason for undergoing this process is the information supplied by the Circumstances: “uncontrollable fires and toxins”. “It”, the Behaver in C34, is an antecedent pronoun to “land” in C33. Thus, the land undergoes the Behavioural process of weeping as a result of the afflicting death occasioned by oil exploitation and exploration activities. And in C74, “earth” is the Behaver that goes through the Behavioural process as a result of the constant extraction of oil from it.

**Mental process**

3 mental process clauses are representing 2.29% of our data. The Senser in a mental process clause is essentially human. Thus, the three Mental clauses have human beings as Senser. In C54, “You” is the Senser. This is also true for C55 in which the Senser and the process are not explicitly stated but recoverable from the context of C54. Therefore, the Mental process in both clauses is “imagine” while the Phenomenon is projected clauses encoding what the poet persona wishes the criminals and transgressors who desecrate and despoil the Niger Delta environment. In C93, the Senser is the personal pronoun “I” and the Mental process is the verb “hear”. The Phenomenon is also a clause. As presented, the “that” clause is a fact, what the poet persona hears: the fact that oil makes things move but does not believe because, in reality, check, oil is destructive and killing the indigenes in the context of the Niger Delta environment.

**Existential process**

Like the Mental process clause, there are 3 Existential process clauses in our data. The first is in C25 in which the Existent is time. In C56 and C58, the Existent is Rex Lawson, a onetime highlife musician who hails from the region. From the context of these two clauses, the poet is using Rex-Lawson in a metaphorical sense to stand for all the eco-activist of the region that has been killed, jailed or silenced by the powers that be. As he asks rhetorically after the birds have fallen silent, the woodpecker slips underground, the hyrax fallen from flares, and all the voices of the land muffled, who is going to be the mouthpiece of the people again?
Findings and Conclusion

From the frequency distribution of the process and participant types in this study, all the six process types are present in the selected poems with the Material processes having 66.41%. This high percentage is indicative of constant actions and activities of pollution and degradation going on in the region. The Relational processes with 15.27% of the clauses and its Attribute and Carrier type are also indicative of the burden of pollution and degradation on the entire ecosystem. In fact, from the analysis, it is obvious that all the process types have thematic significance in encoding injustice not only to the flora and fauna of the region, but also to its indigenes, and to the air, the moon and the sun. The study also observed that though periphery to the clause, the Circumstances are relevant to the overall interpretation of the experiential meaning in each clause when present. In most cases, they realise the actual physical environment, the condition, the reason and how the process in a clause takes place.

Furthermore, the grammatical choices made by the poets in the Transitivity system of the clauses appropriately encode the general ecological and environmental devastations of the Niger Delta region. They also help the poets in particular and the indigenes of the region in general to project their experiences, world views and the goings-on in the region. The analyses further reveal that apart from exposing the environmental injustices of the multinational oil companies, the transitivity structure of the clauses makes the poems combative and resistant to ecological devastation. The experiential structure of the clauses further draws sympathy for the ecosystem of the Niger Delta on which the life of the indigenes depend and makes one seek to protect it.

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