Towards Sociology of Oceans: A Question of Plessner's Positionality in achieving Sustainable development in Rural Coastal Eastern Cape

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Abstract: In the era of climate change and technological advances, poverty remains an important issue in sociology. Since the earth's surface is 70% water; The oceans have sustainably developed human life. The benefits humans have derived from the sea have become the focus of scientific debate. These debates have been influenced by the different views and opinions on how people should use and interact with the marine ecosystem. Anthropocentrism has become a central point of debate or argument in the ecological systems debate, detailing how human beings are impacting the physical environment including the ocean. The focus on human beings as impactors of the physical environment is what makes the sustainability agenda impossible especially in the Ocean. The ocean has been studied as an independent entity and its networks have been unbundled, this unbundling has led to the disturbance of the same Marine ecosystem that is said to be being protected and sustained. One of the effects of the unbundling of this ecosystem is the externalisation of species from most ecosystems, especially the marine ecosystem which is the focus of this paper. While current scholarly work on sustainable development, including but not limited to rural and urban development, is important and highly valued, the sociological focus on the sea and its environment is little to non-existent, particularly in the Republic of South Africa. From Social-Ecological systems theory to Complex adaptive systems theory great work has been done to bring about the most balanced way in which sustainable development can be achieved. The desired outcomes of the schools of thought have not been achieved as today we are still speaking about wetlands, reefs, estuaries, and deep waters population and not leaving out the over-exploitation of marine resources. This Paper argues that the relationship between humans and the ocean can best be understood using Plessner's positionality theory. Plessner argues that humans' dualistic nature distinguishes them from other species as they can influence and be influenced by their immediate environment, unlike other species which are only influenced by the natural environment and are unable to do so influencing the behaviour of the environment. Using mixed methods research data was collected from 200 participants who reside in the Coastal Area King Sabatha Dalindeybo. The data was analysed in the linear General model together with thematic analysis. Results suggest that the coastal community members of this rural area position themselves within the marine ecosystem and not outside. This paper therefore recommends that sustainable development especially sustainable ocean interaction should studied through Plessner's positionality, and this would therefore bring about a new school of thought in Sustainable studies.

Keywords: Human beings, Marine ecosystems, Sustainable Development, Oceans, Positionality,

Introduction

The primary goal of the sociology discipline at the outset was to stabilize societies during periods of chaos and to forecast how society would evolve overall. During periods such as these, when there are disruptions to the climate and a rise in food insecurity worldwide, sociological theory is put into practice. Despite human survival being solely dependent on water little sociological research is done on how the ocean in times of crisis can be a *species'* way out. The lack of interest in the ocean by most sociological is not only a national crisis but a global one (Cocco, 2013; Hannigan, 2017). The idea of studying the marine ecosystem is not new in Sociology as it can be traced back to the field of Maritime sociology mostly dominated by Poland, Germany and Nordic countries who studied maritime

sociology due to the after-effects of World War II. Maritime sociology interrogated the possible economic recovery forms as most countries mentioned above were heavily affected by the war, so four focus areas emerged during the post-war era, and these are Sociology of Marine labour focusing mostly on how the labour space in the maritime would be improved and how the war has impacted the marine labour force. The second focus area or theme that emerged from this was family sociology which explained how coastal communities have been affected by the war and therefore the family structure of the coastal families has been restructured and how those families have restructured post-war. Lastly, cultural sociology was also developed as part of Maritime Sociology which on its own was also focused on the economic recovery plans of post-World War II. Even when sociologists decide to research, it is only about a source of resources and how they can help people. The need for sociological research in the ocean is therefore necessitated by South Africa's rural marine ecosystem status quo.

Marine Ecosystems of Rural South Africa

The National Spatial Biodiversity Assessment (NSBA) marked a pivotal moment as South Africa's first comprehensive assessment of marine ecosystems. It covers 34 biozones, categorized by depth and bioregions from west to east, and highlights pressing threats. The main threat was found to be mining activities, particularly commercial fishing and mining, which particularly affected the biozones on the west coast. The future suggests the situation will worsen as invasive species and mariculture become a growing problem. In the context of rural coastal South Africa, where livelihoods often depend on marine resources, these findings are of great importance. Subsistence communities that rely on marine animals for their livelihoods are at increased risk. The intricate balance of coastal ecosystems supporting diverse marine life highlights the critical role of conservation efforts. However, limited understanding of the status of marine species and inadequate data collection underscores the urgency for improved research and management. Certain species such as abalone, linefish and lobsters face a precarious future, pointing to broader ecological challenges. Illegal fishing is making matters worse, as shown by the decimation of Patagonia's hake stocks around the Prince Edward Islands. Despite regulatory efforts, endangered species such as sea turtles continue to be threatened by fishing practices, although with some signs of improvement (Pierce, et al, 2003). The conservation landscape includes designated protected areas such as the St. Lucia Wetland Park, recognized worldwide for its ecological importance. However, sustainable conservation efforts require broader commitment and innovative strategies, particularly in rural coastal areas where dependence on marine resources is high. Balancing economic needs and environmental sustainability is a paramount challenge that requires collective action and informed policy-making to protect South Africa's rich marine biodiversity for future generations (Pierce, et al, 2003).

In rural coastal areas, the marine ecosystem faces significant threats: 26 marine species are at risk, including 15 endangered and five critically endangered species. This highlights the limited understanding of marine life due to challenges in data collection and underwater research. Commercial status often influences the assssment of marine species beyond mere abundance. The IUCN Red List classifies South Africa's five sea turtle species as "vulnerable," with threats from straw fishing and longline fishing, although conservation measures have led to improvements in some populations. Turtle nesting sites, mainly concentrated in the St. Lucia metropolitan area, enjoy a high level of protection, while the Lucia Wetland Park serves as an important protected area. However, gaps in marine protected areas (MPAs) remain, and proposed initiatives such as the Namaqualand MPA aim to address biodiversity conservation needs. Fish fauna are particularly exploited and threatened, underscoring the importance of accurate distribution databases highlighted by the NSBA. Concerns about the health of estuaries have persisted since the 1970s, with a significant proportion of estuaries remaining in poor condition, particularly in KwaZulu-Natal and the Cape. Sustained efforts are needed to address these challenges and protect marine biodiversity in rural coastal areas (Zamchiya, 2019).

Whitfield (2000) surveyed South African estuaries, including those in the historic Transkei and Ciskei regions, revealing a mixed picture of their health status. While 73 estuaries, or 28 percent of the total, are considered to be in excellent condition and a further 55 percent are considered to be in good condition, significant challenges remain. Rural coastal communities in South Africa face various issues related to estuarine health. Estuaries along the south and southeast coasts are generally doing better, with the Wild Coast enjoying excellent estuarine health. However, the areas surrounding Port Elizabeth, the heavily developed southwest coast of the Cape and much of the KwaZulu-Natal coast experience fair to poor estuarine conditions, impacting local communities that rely on these ecosystems. The ecosystem status of estuarine species raises significant concerns, with most zone groups classified as endangered or critically endangered. In particular, estuaries in the subtropical zone, except those that are permanently open, as well as all types of estuaries in cool temperate latitudes are exposed to increased risks. Even in regions where other estuary types have better conditions, persistently open estuaries in the warm-temperate zone remain at risk (King et al. 2005).

Concerning the ecosystems of estuaries, King et al. (2005) found that there is not much overall protection for South African estuaries. Of the 41 estuaries that are part of protected areas, only 14 (5.4%) are regarded as being especially protected. Moreover, the majority of these river mouths are extremely tiny. This is significantly less than the minimum objective of having 30% of estuaries protected to a high degree, as advised. Many well-protected estuaries can be found in KwaZulu-Natal, including some of the biggest estuaries in the nation (St Lucia and Kosi). Tsitsikamma National Park has a number of small estuaries that are well protected along the Cape South coast. Further west, the Heuningnes and Kromme estuaries lie in securely guarded areas. The protection of the remaining estuaries is only partial, i.e. H. E. A. either exclusively for part of the estuary or exclusively under flood conditions, as in the case of the estuaries within the Pondoland Marine Protected Area. A significant gap in the overall conservation database is the apparent lack of data on the status of estuarine species. To conserve endemic species, the estuaries of the Western and Eastern Cape are crucial (King et al. 2005). The Knysna seahorse (Hippocampus capensis), one of the six flagship species, is an endemic fish found only in the Knysna and Swartvlei estuaries on the Southern Cape coast. According to the IUCN Red Data Lists, this seahorse is considered the most endangered species in the world. It is classified as threatened due to habitat degradation in its extremely small habitat and mass mortality in the Swartvlei estuary caused by artificial breaks in the estuary's mouth. The tiny Peringuey leaf-toed gecko (Cryptactities peringueyi) was found in 1992 after being considered “lost” for 80 years. It is restricted to the Kromme Restuar and some locations near Port Elizabeth. It is the only gecko in the world that lives in salt marshes. Bulldozers are destroying salt marshes and this unusual gecko is following their example. White rockbream (Lithognathus lithognathus): The once abundant white rockbream is now severely depleted (down to 5% of its former biomass) due to overfishing (due to its spawning aggregations it was vulnerable to heavy fishing pressure and beach seining) and its habitat reduced to up to 5% of its size previous biomass is broken down (the rearing of young fish is dependent on the estuary). To save this valuable endemic, strict catch limits are now in place (King et al. 2005).

The decline of estuarine needlefish reported by SANBI highlights the complex interaction between natural processes and human activities. Factors such as altered freshwater flow due to impoundments upstream and inadequate environmental flow distributions have contributed to the decline of this species. By applying Plessner's positionality theory, researchers can examine how these environmental changes intersect with social dynamics in rural coastal communities. Plessner's framework allows researchers to analyse how the community's position within the marine ecosystem influences their perceptions, behaviours, and responses to environmental challenges. It shifts the focus from conventional ecological perspectives to a more holistic understanding that integrates sociological factors. For sustainable development initiatives to be effective, it is critical to understand the socio-ecological dynamics that shape rural coastal communities' relationship with their environment. Plessner's theory of positionality provides a theoretical framework for examining this complexity and emphasizes the need for interdisciplinary approaches that consider both ecological and sociological dimensions. By understanding the community's position within the marine ecosystem, stakeholders can develop more contextually relevant and inclusive strategies for conservation and sustainable resource management. This approach recognizes the intrinsic connection between human societies and their environments and promotes more equitable and resilient pathways toward sustainable development for rural coastal communities.

Theoretical Framework

It would be unjust of this study if the conceptualization of positionality would be done without drawing or engaging the writings of Helmuth Plessner. Plessner discusses human positionality in terms of the organic and inorganic bodies which he refers to as a dualist state, he argues the two entities produce the position of the human being within the natural environment they exist (Plessner, 2019). He states that human beings have eccentric positionality because they are not simply plunged into the natural environment or their bodies like their counter species. They can detach from themselves and their natural surrounding environment which allows them to observe and engage the natural environment in a complex way that biology cannot explain. This complex relationship that individuals have with the natural environment and themselves can be best understood through what Plessner calls human dualism.

The concept of excentricity highlights the idea that human existence is characterized by a kind of duality. On one hand, humans are embodied beings with physical needs and biological processes like other animals. On the other hand, they possess a capacity for self-awareness and rationality that allows them to transcend their immediate biological and environmental constraints (Plessner, 2019).

Plessner's positionality theory emphasizes that this detachment or distance does not imply a separation from the body or the world. Instead, it signifies a unique form of relationship and self-relation that is distinctively human. Human

beings are not fully absorbed in their bodily processes or their surroundings; they maintain a critical stance and a degree of objectivity toward themselves and the world.

This proposition did not go unchallenged as some argue that it falls short in providing concrete evidence to substantiate its central claims about human nature. Overemphasis on human exceptionalism, Critics argue that this kind of exceptionalism can lead to anthropocentrism and downplay the continuum of life and the interconnectedness between humans and other organisms (Grene, 1966; Krüger, 1998; Krüger, 2010). Critics Plessner argue that the ways humans relate to themselves, and the world are deeply influenced by cultural and societal norms, and these aspects are not adequately addressed in Plessner's theory.

Lack of intersectionality: Critics contend that Plessner's positionality theory does not sufficiently address issues of intersectionality, such as the impact of race, gender, class, and other social identities on human positionality (Krüger, 1998). The critics of Plessner's positionality did not harm his main concept but rather gave rise to understanding and interpretations while still applying the same principles that were originally proposed as a result positionality as a term, research approach and also as a process has its roots deeply entrenched within the philosophy field and has ever since been mostly dominated or used by the conflict scholars such as race and gender activist (Lotz-Sisitka et al., 2016; Mason-Bish, 2019; Davis & Khonach, 2019; Batool & Ali, 2021). For the benefit of this article positionality of *species being* was utilised from Plessner's point of view.

Main Research Objective

The main objective of this article is to explore the application of Plessner's positionality framework as an analytical tool to study the use of rural coastal marine ecosystems to propose a new approach to sustainable development.

Research Methods and Materials

Research Design and Paradigm

This study used an exploratory mixed methods approach. Mixed methods as a research tool have their strategies, which some call types. The term "mixed methods" has come to refer to the use of two or more methods in a research project that provide both qualitative and quantitative data. Mixed methods research is defined as the combination of at least one qualitative and at least one quantitative component in a single research project or study (Bergman, 2010; Hall, 2013). For Cresswell (2003); and Cresswell & Cresswell (2018 &2023) these are sequential explanation method, sequential exploration method, sequential transformation method, simultaneous triangulation method, simultaneous nested method, and simultaneous transformation method. All mixed methods strategies mentioned have their suitability depending on the study carried out. The sequential exploratory mixed methods approach was used for this article. The exploratory sequential design began with qualitative data collection and analysis and built on quantitative data collection and analysis leading to interpretation. In this design, the qualitative results were used to develop a new tool or taxonomy for the quantitative domain. Mixed methods research has established itself as a third methodological movement over the last twenty years, complementing the existing traditions of the quantitative and qualitative movements. The mixed methods approach has been at the centre of the Research paradigm debate as its critics argue that this being a fairly new approach it has no proven paradigm that its proponents have proposed as the major paradigm which belongs to it. As a solution to Cresswell's, Abbas Tashakkori and Charles Teddlie; Manfred Max Bergman; Vicki L. Plano Clark and Amanda L. Garrett's dilemma of research paradigm to the mixed methods approach Critical Realist research paradigm has been emphasized as the most suitable paradigm for this approach. Bhaskir is regarded as the founder of the Critical realist paradigm whose main argument is that reality cannot be reduced to mere experiences, impressions, and discourses. Social structures, powers, and tendencies influence and shape reality and these cannot be known or experienced, but they do inform reality or the truth about the world. Using the Critical realism approach, the data collection methods were both abductive as the themes that were used to collect data were theory-based while the quantitative data collection methods were based on the data collected during the first phase.

Data collection and Analysis methods

The data was first collected from the key informants which were local government officials responsible for the management and running of the coastal amenities, businesspersons, university personnel, and local Authorities just to get an over of the study area and the relations that the people have with the marine environment. The qualitative data was collected using interview guides in semi-structured interviews; Just as Cresswell (2023), states the qualitative data was thematically analysed and informed the data collection tool for the quantitative aspect of this Exploratory sequential mixed methods design. A questionnaire of closed-ended questions was distributed to 200 participants from the rural village of Coffee Bay and Hole in the Wall with the questions focusing on their interactions with the marine

environment and how they see themselves within this ecosystem. Correlation was used in examining correlations between socioeconomic status and marine resource utilization patterns. Inferential statistics were used to test whether there were significant differences in resource use between different demographic groups within the community.

Results

The tested independent variables are variables that the study defined as the organic self as was vividly in not so many words defined by Plessner in his Positionality. *Species being* can detach from the immediate environment through the interference of the inorganic self, the variables that the study has used here are the inorganic self-enablers. For this article, the inorganic self-enablers are education, gender, income groups and education.

Table 1: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	31.208	4	7.802	4.704	.004[b]
	Residual	61.364	37	1.658		
	Total	92.571	41			

Table 1 shows the ANOVA results of how selected demographic characteristics influence the views of people towards the marine ecosystem, the results suggest that the regression model as a whole is statistically significant, as indicated by the low p-value (0.004). This implies that at least one of the predictors in the model has a statistically significant relationship with the dependent variable. However, to determine which specific tested independent variable predictors are significant, the coefficients and p-values in the regression output are displayed in Table 2 below.

Table 2: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	Gender Of Respondents	-3.477	1.021	-1.058	-3.405	.002
	Highest level Of Education	-1.568	.400	-1.109	-3.918	.000
	Approximate Income Groups per Month	-.409	.317	-.361	-1.290	.205
	Age of Respondents	-.273	.202	-.275	-1.350	.185

Table 2 shows the coefficient results of how selected demographic characteristics influence the views of people towards the marine ecosystem.

Gender of Participants and Views held by participants about marine Ecosystems.

The coefficient for "Gender of Respondents" being -3.477 suggests a negative relationship between gender and how participants view the marine ecosystem areas in their communities. The significance of the coefficient, as indicated by the p-value (Sig.). In this case, the p-value associated with "Gender of Respondents" is 0.002. Since the p-value (0.002) is less than a conventional significance level such as 0.05, the study can conclude that the relationship between gender and the dependent variable is statistically significant. In other words, there is strong evidence to suggest that gender is associated with the different views held by people towards the marine ecosystem, after accounting for other

variables in the model. Therefore, "Gender of Respondents" appears to be a statistically significant predictor of how individuals view and understand their relationship with marine ecosystems, suggesting that gender influences the outcome being studied.

Level of Education of Participants Views held by participants about marine Ecosystems.

The coefficient for "Highest Level of Education" is -1.568. This means that holding all other variables constant, each unit increase in the highest level of education is associated with a decrease of approximately 1.568 units in the views held by participants. The p-value associated with "Highest Level of Education" is 0.000, which is less than the conventional significance level of 0.05, which suggests that the coefficient for "Highest Level of Education" is statistically significant. Even here there is strong evidence to reject the null hypothesis that the coefficient is equal to zero, indicating that the highest level of education is indeed associated with the views individuals hold towards the available marine ecosystem, whether positive or negative.

Age and Approximate income groups of Participants

The standardized coefficient of -0.361 indicates that Approximate income groups have a moderate negative effect on the views held by participants on the marine ecosystems when measured in standard deviation units. However, the t-value of -1.290 and the p-value of 0.205 suggest that this relationship is not statistically significant at the conventional threshold of 0.05.

The standardized coefficient of -0.275 indicates that the Age of Participants has a moderate negative effect on the views held by participants on the marine ecosystem when measured in standard deviation units. However, similar to Approximate income groups, the t-value of -1.350 and the p-value of 0.185 suggests that this relationship is not statistically significant at the conventional threshold of 0.05.

Correlation Test for how individuals position themselves within the marine ecosystems.

Table 3: Frequency Distribution of how individuals position themselves within the marine ecosystems.

Position of Participants Marine Ecosystem	YES	NO	N
Would you say that you exist outside the Coastal Ecosystem of your community?	261	00	261
Total	**261**	**261**	**261**

Table 3 shows the Frequency Distribution of how individuals position themselves within the marine ecosystems.

Table 4: Correlations for how individuals position themselves within the marine ecosystems.

		Would you say that you exist outside the Coastal Ecosystem of your community?
Gender Of Respondents	Pearson Correlation	-.092
	Sig. (2-tailed)	.246
	N	261
Age of Respondents	Pearson Correlation	.228**
	Sig. (2-tailed)	.004
	N	261
Highest level Of Education	Pearson Correlation	-.224**
	Sig. (2-tailed)	.004
	N	261
Sources of Income	Pearson Correlation	-.455**
	Sig. (2-tailed)	.000
	N	261

Table 4 shows Correlations for how individuals position themselves within the marine ecosystems.

The significance levels (Sig.) indicate whether the observed correlations are likely due to chance. Correlations with a significance level of less than 0.01 are considered statistically significant. The gender of the respondent is negatively correlated with the p-value of (-0.092), although the negative correlation is not statistically significant. There is a positive relationship for age and the highest level of education, this variable shows a negative relationship with a value of (-0.224**). There is a strong negative correlation in terms of income sources. The results suggest that sources of income may play an important role in explaining why people in the area position themselves the way they do, and that there are links between age, education level and reasons for the position that individuals hold within the area marine ecosystems have taken over.

Discussion

Eccentric Positionality in Rural Coastal Communities.

Species being is in a constant state of tension between nature and culture, the inner and outer world, so *species being* is in a state of tension. Eccentric positionality emphasizes that humans are both part of nature and rise above it through culture and technology. For *species being* to be able to overcome the state of tension it must willing to explore alternative ideas and challenge the status quo; Challenging the status quo and ideas can lead to innovation, creativity, and broader perspectives. The new ideas that can be brought through eccentric positionality will benefit *species being* who are simultaneously within and outside themselves. In explaining eccentric positionality, Dobeson (2018), emphasizes the interconnectedness and interdependence of various elements in the realm of social life. Eccentric positionality suggests that understanding human existence and behaviour requires analysis that goes beyond individualistic or reductionist approaches. Instead, a holistic view is required that takes into account the dynamic relationships between the individual, society, culture and the environment. At the heart of Dobeson's explanation of eccentric positionality is the recognition of the complex web of connections that shape human experiences and interactions(Dobeson, 2018).

In the rural coastal communities in South Africa, Plessner's theory of eccentric positionality provides a valuable perspective for interpreting the discovered negative relationship between gender and the way community members view marine ecosystems. Plessner's concept suggests that individuals in these communities have the ability to move beyond immediate viewpoints and embrace different perspectives. The observed negative coefficient (-3.477) associated with "gender of respondent" suggests that gender plays an important role in how people perceive and interact with the marine environment around them. The statistical significance of this relationship, highlighted by the low p-value (0.002), underlines its relevance and impact. By applying Plessner's framework in this context, we can view gender not as a fixed attribute, but as a fluid element of human experience that influences our connections to and understanding of the natural world.

Plessner's theory of eccentric positionality offers profound insights into the dynamics between participants' levels of education and perspectives on these vital environments. The negative coefficient (-1.568) assigned to the "highest level of education" suggests an interesting pattern: the higher people's education levels, the worse their view of marine ecosystems becomes. This counterintuitive relationship highlights the complex interplay between education and environmental perceptions in rural coastal contexts. Plessner's theory invites us to consider the eccentric position of individuals within these communities and emphasizes their ability to go beyond immediate experiences and adopt different perspectives. In this framework, the negative coefficient implies that higher education can sometimes lead to distancing or disengagement from the close connection that rural coastal residents often have with their marine environment. This distancing could be due to a variety of factors, including increasing exposure to alternative worldviews, academic disciplines that emphasize abstract thinking over embodied experiences, or economic opportunities that divert people from traditional, sea-bound livelihoods. The statistically significant p-value of 0.000 further strengthens the credibility of this relationship and indicates that the observed relationship between education level and perceptions of marine ecosystems is unlikely to occur due to chance alone. Rejection of the null hypothesis reinforces the finding that education does indeed have a tangible impact on how people in rural coastal communities perceive and engage with their marine environment. This interpretation leads to deeper investigations into the role of education in promoting environmental protection and community resilience in rural coastal areas. Rather than viewing education as a simple catalyst for increased environmental awareness, Plessner's approach encourages nuanced considerations of how educational experiences interact with cultural, economic, and social dynamics to shape individuals' relationships with their natural environments.

The standardized coefficients of -0.361 for approximate income groups and -0.275 for participants' age suggest a moderate negative effect on individuals' views of marine ecosystems. This suggests that in rural coastal communities, as income levels and age increase, there tends to be a corresponding decline in the way individuals perceive and engage with their marine environment. Plessner's theory encourages us to consider the eccentric position of individuals within these communities and recognize their ability to adopt different perspectives shaped by different socioeconomic factors. Examining Plessner's theory in this context raises critical questions about how socioeconomic dynamics intersect with environmental perceptions in rural coastal communities.

Boundary and Crossing in Rural Coastal Communities

Plessner's second theoretical argument is that living organisms are characterized by having limitations. Transcending these natural boundaries is essential to understanding the relationship between organisms and their environment. The boundary that separates a person from the outside world is called a border. The border represents the point at which people encounter the world and develop a sense of independence and individuality. While "crossing" refers to the dynamic interaction between people and the world and the world beyond the border. Through crossing, people engage with the world, adapt to changing environmental structures, and construct their identities in relation to their surroundings. Human existence is characterized by the tension between boundaries and transgressions. While the boundary and crossing provide a sense of stability and identity, crossing allows for growth, exploration and adaptation. Human existence is therefore characterized by a constant movement between these two poles as individuals cope with the complexities of life and come to terms with the new world around them. Through borders and crossing borders, people overcome the limits of their existence and engage with the world beyond their borders.

Plessner's viewpoint on boundaries and crossing is distinct from that of other scholars such as Simmel and Luhmann. For Plessner reactions to boundary delimitation rather than boundary crossings are where human existence can exhibit potential for advancement and dynamism. It also propels social evolution, differentiating humans from other living things. Plessner breaks down the spatial aspect of the boundary concept(Loenhoff, 2016). Plessner emphasizes the concept of boundaries, which represent the interface between an organism and its environment. In rural coastal

communities, boundaries can be understood as socioeconomic and ecological interfaces that shape individuals' interactions with their environment, particularly marine ecosystems.

Leonhoff (2016) argues that to Plessner, Simmela and Luhman boundaries are procedural events that exist in the execution of particular tasks rather than static forms. As a result of interactions and reactions, boundaries are continually being redefined and reshaped. In terms of the emphasis on responses to delimitation, the dismantling of spatial dimensions, and his criticism of Cartesian dualism. Plessner's analysis of boundaries emphasizes the need for hermeneutic reflection in determining boundaries. His approach is more philosophical and hermeneutic rather than purely based on sensual perception. Plessner's concept of downward causality, which suggests that higher-level structures influence lower-level structures, can be seen in the influence of socioeconomic factors (such as age, education level, and sources of income) on position themselves within the marine ecosystem. The positive association between age and the highest level of education, coupled with the negative association between educational level and sources of income, suggests a complex interplay between socioeconomic status and environmental engagement. This suggests that older individuals, perhaps with higher levels of education, may position themselves differently within marine ecosystems than younger, less educated individuals. Furthermore, the strong negative correlation of income sources suggests that economic factors significantly influence individuals' commitment to marine ecosystems. Furthermore, the non-significant negative correlation between gender and p-value implies that gender may not have a direct influence on the position of individuals within marine ecosystems. However, it is important to consider the broader socio-cultural context of the South African coastal community, where gender dynamics could still play a role, albeit indirectly, in shaping individuals' relationships with the environment.

Double Aspectivity

Human beings exhibit double aspectivity. Humans have a relationship with both sides of their boundaries and this in turn influences their interaction with the world around them. Understanding this double aspectivity is important in studying the unique position of human beings within the existing ecosystems. Human beings possess dual aspects to their existence which is what sets them apart from other living organisms. At the centre of this dualism tenet is the idea that human beings simultaneously have a naturally biological aspect and a spiritual transcended aspect. This duality characterizes the human condition and distinguishes him from other living organisms (Plessner, The Sphere of the Human, 2019).

The inhabitants of these coastal enclaves inhabit a realm where boundaries blur and merge, reflecting the interconnectedness of their existence. Their interaction with the natural world is imbued with a profound dualism: on the one hand, they are tied to the physical world, intimately interwoven with the fabric of the ecosystems that sustain them; On the other hand, they transcend the material and immerse themselves in the spiritual dimensions that shape their cultural beliefs and practices. By delving into the depths of human dual aspectivity, scientists uncover the complex web of human-environment relationships unique to South Africa's coastal communities. This dualistic perspective not only distinguishes humans from other beings, but also highlights the complex web of connections between individuals, communities, and the natural world. It emphasizes the need to consider both the material and intangible aspects of human existence when examining their role within these ecosystems.

The Organic or biological aspect includes instincts and the bodily process, it connects human beings to the natural world and reflects their embodiment as physical beings which is subject to the laws of nature like any other living organism found in the ecosystems. On the other hand, the Inorganic or spiritual aspect moves beyond the biological existence. It includes the human capacity for self-reflection, consciousness and rational thought. This aspect allows human beings to transcend their immediate circumstances, engage in abstract thinking and reflect on their place in the world. This implies that human beings exist at the intersection of the biological and spiritual world, embodying both aspects simultaneously. Plessner emphasises that these two aspects are intertwined and not separate or independent in human experience (Plessner, The Sphere of the Human, 2019).

Artificial nature of Human Beings.

Human beings' eccentric positionality has led them to create culture and technology as a way to compensate for their homelessness and lack of equilibrium. Culture and technology are not just survival tools but ontic necessities that arise from the fundamental needs of humans. This artificial nature of Human beings portrays the complex interplays between nature and culture that are shaping human existence. This emphasizes ways in which human beings both belong to and transcend the natural world and the responsibility that comes with our unique capacity for self-awareness and agency (Mul, 2014).

Man is characterised by mediated naturalness, that is, man is part of nature and subject to its laws. Humans also have a mediated relationship with nature due to their ability to self-reflect, to be conscious and to culture. The artificial nature of species existence also refers to the ways in which humans transcend their immediate biological and natural existence through culture, technology, and social institutions. Plessner further argues that, unlike other living organisms, behaviour is determined primarily by instincts and biological desires. Living things create artificial structures and systems that shape their lives and mediate their relationship to the natural world (Dobeson, 2018; Kinkaid, 2021; Plessner, 2019).

This artificial nature is not a negotiation of human authenticity, but rather an essential aspect of human existence. Living things use tools, language, science and social institutions to engage with their environment, manage their needs and pursue their goals. The cultural and technological creation of human life contributes to the construction of human identity and society. Plessner argues that tension is inherent in man's artificial nature. Culture and technology enable species to overcome the limits of their biological existence, but also pose challenges and risks such as alienation from nature, environmental degradation and ethical dilemmas.

The concept of “mediated naturalness” suggests that, despite his belonging to the natural world, man's relationship with nature is influenced by his ability to reflect, be aware and shape culture. This implies that the way people perceive and interact with their coastal environment is not only determined by instinct or immediate biological drives but is also shaped by cultural, technological and social factors. The mention of a positive correlation between age and education level and a negative correlation with income sources illustrates how socioeconomic factors intersect with individuals' roles and positions in marine ecosystems. This could be interpreted in the South African context to mean that older individuals with higher levels of education may hold authority or decision-making power related to coastal management, while individuals with lower income sources may be more vulnerable or marginalized in this setting. Furthermore, reference to philosopher Plessner's argument that human behaviour is influenced by cultural, technological and social factors challenges the idea that human actions are controlled solely by biological instincts. This perspective suggests that human behaviour in rural coastal communities is shaped not only by innate drives but also by broader societal influences such as education and cultural norms.

Conclusion

The multifaceted perspective offered by Plessner's theory of positionality provides a valuable framework for understanding the complicated dynamics involved in achieving sustainable development in the rural coastal area of the Eastern Cape in South Africa. By recognizing the diverse socioeconomic and cultural factors that influence individuals' relationships with their coastal environments, policymakers and researchers can develop more holistic approaches to environmental education, conservation, and community engagement. This deeper examination of demographic dynamics enables the development of nuanced strategies tailored to the unique circumstances of rural coastal communities, ultimately promoting more effective conservation efforts and sustainable development initiatives. Thus, assuming Plessner's positionality will contribute significantly to addressing the complexities of human-environment interactions and advancing the management of marine ecosystems in rural coastal areas of South Africa, thereby providing a new approach to achieving sustainable development.

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