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A Critical Discourse Analysis of Newspaper Texts on the Science of Crude Oil Refining in Nigeria

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Abstract: As a country with a remarkable crude oil deposit, it is a dark irony that Nigeria depends on importation for its petroleum product needs. The devastating impact on Nigeria's economy of this dependence continues to provoke polemics. Recently, the polemics dominated the text of Nigeria's leading national newspapers. We see in the texts, manifest and latent ideological status quo thinking about the variant of science Nigerians believe might launch Nigeria into a sustainable competence in petroleum products affordability. Since latent ideological text meanings elude the competence of lay readers, we sampled as data, newspaper texts containing manifest and latent views expressed by Nigerians regarding the version of science of crude oil refining they believe Nigeria needs to enable it to exit its dependence on importation for its petroleum product needs. Leveraging our critical discourse analysis of these diversely sourced data, we raised and answered questions, such as whether the concern expressed by powerful Nigerians against indigenous crude oil refiners results from the patriotic disposition of the powerful or whether their concern is a pushback against anything with a potential to break the monopoly and the illicit gains that accrue from oil subsidy policy that enriches only those at the corridors of power. Our analysis also forayed into why Nigeria's journalists and Nigeria's political class see nightmare instead of dreams in the commitment of indigenous crude oil refiners to indigenize the production of petroleum products in Nigeria.

Keywords: science journalism; versions of science; indigenous science; artisanal refinery; petroleum subsidy



Citation: Amadi, Fred A., and Temple Uwalaka. 2022. A Critical Discourse Analysis of Newspaper Texts on the Science of Crude Oil Refining in Nigeria. *Journalism and Media* 3: 682–697. <https://doi.org/10.3390/journalmedia3040045>

Academic Editor:
Andreu Casero-Ripollés

Received: 3 August 2022
Accepted: 7 October 2022
Published: 14 October 2022

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1. Introduction

If a country is blessed with a large crude oil deposit, as well as good knowledge of science and journalism, but cannot harness such endowments for the alleviation of socio-economic challenges that hobble its citizenry, such a country cannot escape critical censure. Given that Nigeria is a country with remarkable crude oil deposit, it is ironical that the importation of refined petroleum products, occasioned by inability to locally refine crude oil for local consumption, took a stranglehold on Nigeria's economy and the welfare of the citizens. Refining crude oil in order to extract petrol, diesel, and other derivatives is a scientific art. Nothing contributes to Nigeria's dependence on imported petroleum products more than the absence of indigenous or local science components in crude oil exploration and refining. To be sure, by native but indigenous science component, we mean the science that is completely autochthonous with a virgin native prototypical chemistry—the type pioneered by the Chinese in 347 A.D. and later by James Young in Scotland in 1847 (Ali 2022). The knowledge of the indigenous science of crude oil refining, or lack of it, in Nigeria provokes a great deal of polemics. Compounding the polemics are contentions about the versions of science and which of the versions Nigeria should include in her struggle to overcome the challenge of depending on importation for its local petroleum product needs (Francis 2022; Naku 2022; Nkwopara and Alozie 2022).

This paper reports on how journalists frame the discourse of indigenous science and the polemics of crude oil availability, refining, pricing, and consumption in Nigeria. It investigates the concern raised by and against indigenous artisanal crude oil refiners in Nigeria. It interprets the manifest and latent newspaper texts to ascertain whether the misgivings against artisanal crude oil refining is driven by altruistic motive or by fear that the perfection of artisanal refining would eliminate the advantages that importers of petroleum products in Nigeria enjoy. The rationale for this critical analysis is founded on the assumption that if the misgivings against artisanal refining in Nigeria are not driven by an altruistic motive, such misgivings will be expressed in latent and covert text meanings, not in overt and manifest text meanings. It should be noted that latent, not manifest, text meanings are pervasive in human communication to a degree that triggers comments about the nature of text meanings. While (Sillars and Gronbeck 2001, p. 173) note that “not all meanings in a text lie on the surface of the text”, McQuail (2010, p. 361) informs that “concealed latent meanings in texts cannot be directly read from numerical data”, as is done in quantitative content analysis. Let it be noted that manifest text meanings are the meanings that the author of a text or those behind the production of a text wants the audience to grasp from the text. Latent text meaning, on the other hand, is the meaning that the culture capital of the text reader—the reader’s critical academic training, the reader’s culture, and so forth—lead the reader to unearth from what the manifest meanings of a text hides (Verschuere 1999, pp. 26, 237 and 249; O’Halloran 2017, p. 302; Galasinski 2014, p. 193).

2. Theoretical Framework

Our aim in this paper is to ascertain whether, in their coverage of the polemics of how Nigeria can become self-sufficient in crude oil refining, Nigeria’s newspapers and their reporters made their reportage a voice of advocacy for indigenous science of crude oil refining. In that regard, the tenets of framing theory and the theory of diffusion of innovation are here considered apposite. Framing theory aims to identify schemes in which individuals perceive the world (Volkmer 2009, p. 407). As the person credited to popularize the theory, Ervin Goffman argued that interpretive designs constitute central elements of a cultural belief system. Goffman refers to the interpretive designs as frames used by humans in their everyday experience of realities in the world (Volkmer 2009, p. 407). The relevance we see in this theory resides in our belief that reporters can help to attenuate negative assessments of the science of artisanal crude oil refining by converting their reportage into an interpretive design for changing the pervasive perception of artisanal refining as a nightmare. Another theory with apposite postulation is that of the diffusion of innovations. As popularized by the French sociologist and legal scholar Gabriel Tarde, diffusion is the process by which an innovation makes its way over time to members of a society. As explained by (Singhal 2009, p. 307) an innovation is the introduction of something new in a project, practice, or idea. Singhal cites how Indians, in the past, used the introduction of horses to innovate their art of warfare.

In the context of the quest to attain self-sufficiency in crude oil refining, more so given the economic hemorrhage Nigeria suffers because of fuel subsidy, the science of artisanal refining, though crude at the moment, should be promoted as an evolving indigenous science. In accordance with the tenets of the theory of diffusion of innovations, reporters should champion a cause for policy to push the science of artisanal crude oil refining into an indigenous innovation that Nigerians can applaud.

2.1. Literature Review: Is Nigeria Trifling with Innovation?

Nigeria has four Western science-built refineries that are over thirty year old. Dangote, Nigeria’s richest man, is on the cusp of completing the building of another one. In spite of this, Nigeria increasingly continues to depend on importation to sate its petroleum product needs. Nigeria’s thirst for petroleum products and the resources wasted in price subsidy to enable Nigerians to afford imported products increase as years go by. Yet, polemics about

the version of science of crude oil refining with a potential to lift Nigeria out of this trap continues to lionize Western science at the expense of indigenous innovations.

The question that Nigeria's reliance on Western science-built refineries begs is why the former old four Western science-built refineries remain unmanageable despite efforts to revive them. Nigerians wonder why successive governments in Nigeria continued to ignore the solution that the indigenous science of crude oil refining can provide. [Umukoro \(2018\)](#), for instance, outlined both the rubrics of the indigenous science of crude oil refining and the numerous advantages it holds in Nigeria's quest for self-sufficiency in petroleum product availability. Tracing the genesis of the science of artisanal crude refining to the secessionists during the Nigerian civil war, [Umukoro \(2018\)](#) elaborated on the rubrics of the indigenous science of crude refining known as fractional distillation—otherwise known in local parlance as 'cooking'. [Umukoro \(2018\)](#) describes the basics as a procedure involving cooking barrels of crude oil with firewood to extract various petroleum products as the heat of the cooking intensifies.

[Umukoro's \(2018\)](#) elaboration finds resonance in ([SOAS ACE 2022](#)), where the artisanal refining process is described as comprising the stages of cooking, condensation, and storage. This source airs a video not only of the process of artisanal refining but the vast market and employment opportunities it provides. It remained a mystery as to why, in neglecting the avenue of artisanal crude oil refining, Nigeria's governments continue to prefer crude oil importation that is shrouded in a subsidy regime that provokes mixed reactions and economic ruin ([Uwalaka and Watkins 2018](#)).

For instance, the Labor Party presidential flag bearer Peter Obi weighed in on the lingering conundrum of how fuel subsidy impoverishes Nigeria. Obi not only accused the government of masterminding the stealing of crude oil in Nigeria, but advocated that Nigeria should embark on "aggressive local refining" in order to wean itself off the shenanigan of fuel subsidy, about which Obi declared that "payment of oil subsidy as currently practiced in Nigeria is an organized crime" ([Olatunji et al. 2022](#); [Uwalaka 2020](#)). Obi's accusation that Nigeria's government is behind oil theft in Nigeria finds resonance in the report by [Elumoye and Aborishade \(2022\)](#) in a manner that justifies not only the view that "there are things journalists do but are unaware of" ([Fairclough 2001](#), p. 43), but more importantly, that "the social semiotics and psychological dimensions of text production escape the conscious control of journalists" ([Gripsrud 2002](#), p. 13). There is a latent omission in the report about Obi by ([Olatunji et al. 2022](#)) that justifies the view that the social semiotics and psychological dimensions of text production escape the conscious control of journalists. That omission is the failure by the journalists to ask Obi to elaborate on whether his 'aggressive local refining' would include the participation of artisanal refiners, or whether by such a phrase he meant only Western science-driven refining art. On page one of *Thisday* of September 22, [Elumoye and Aborishade \(2022\)](#) reported Nigeria's Senate as declaring "... the current massive oil theft in the county, if not immediately curbed could frustrate the implementation of the Petroleum Industry Act (PIA)". [Elumoye and Aborishade \(2022\)](#) also omitted asking the senate to mention those involved in stealing as Obi did. Such omission indicates that [Elumoye and Aborishade \(2022\)](#) were unconsciously committing in their report the error of "obfuscation of the agents" ([Fairclough 2001](#), pp. 33, 103–4) that is responsible for 'the current massive oil theft'. These unconscious failures have greater implications for the country and breeds not only distrust of the journalism institutions but lead to an unsatisfied audience (see: [Uwalaka 2020](#); [Uwalaka and Watkins 2018](#)).

Unexpectedly, it is not only in newspaper texts that utterances that denigrate the science of artisanal refining are rampant. Alarmist rhetoric against the science of artisanal refining pervades. [Luke and Odokuma \(2021\)](#) blame all environmental pollution challenges in the Niger Delta region of Nigeria on the activities of artisanal refiners. The absence of faith in the indigenous science of crude oil refining in Nigeria provokes interest in what Nigeria policy makers and journalists conceive science as.

2.2. Contentions about Science

The academic world is grappling with the challenge of who prescribes and protects what counts as scientific knowledge and how to acquire it (Kuntz 2020; Koro et al. 2020; Shapin 2005). The provenance of the tension over what should be accepted as consensual universal scientific knowledge dates back to the seventeenth century when, in order to police their definition, the Royal Society of London jettisoned the idea of theology as the queen of the sciences and insisted by nineteenth century that what should be accepted as scientific knowledge was only that gained through rigorous “observations and experiments” that result in practices capable of generating consensual certainty and definitional stability (Shapin 2005, pp. 315–16). Immersed in this policing posture, the Royal Society of London rejected “such other knowledge which, at best, were probable or at worst conjectural, arbitrary, or ideologically” colored (Shapin 2005, p. 315). Shapin notes that the Royal Society of London prescribed that scientific knowledge, and its corollaries must be those founded on legitimate facts with disciplined means for moving from facts to a judiciously framed causal account. Despite the fact that the natural sciences themselves “continued to display conceptual and methodological heterogeneity” (Shapin 2005, p. 317), the monolithic, hegemonic and homogenizing articulations about science persist, regardless of countervailing insights provided by leading scientists and postmodernist/poststructuralist thinkers. By citing (Wilber 2001), who is celebrated as one of the best minds in physics and who notes that physics is simply the study of the realm of least being, (Meyer 2008, p. 226) posits that “to believe that science or objective and empirical-based knowledge could describe all of life reduces life” to its smallest part. To further counter the homogenizing view about scientific knowledge, other voices describe indigenous scientific knowledge as a rich source of knowledge that is “in a flux” in ways that the world must recognize (Cajete 2008, pp. 499–500).

These contentions about what constitutes scientific knowledge would not arise if all stakeholders upheld the view that “knowledge is inevitably situated, partial, constructed, multiple” and “cannot be gained in uniform ways” (Ellingson 2013, p. 433; Torrance 2013, p. 366). To support Ellingson and Torrance’s views, other voices, such as “ancestral knowledge around the world is still waiting to be listened to” (Puebla 2015, p. 397), are now attracting global attention. Abbott notes that it is only recently that intellectual colonialists who promote the homogenizing view of science began tapping into indigenous scientific knowledge to enable them to build “knowledge communities” between academics and local people in order to scrutinize the knowledge that took generations of learning to build (Abbott 2012, p. 83). Writing about what constitutes scientific knowledge, truth, and reliability, Abbott cites the knowledge of rain making in Kenya. Details of Abbott’s (2012, p. 83) encounter with Alexander Okonda, a Kenyan rain maker, indicate that by leveraging the extra-linguistic messages of the croaking of frogs, the movement of termites, the leafing of certain trees, twitching in some body parts and so forth, the Kenyan rain makers perfected the art of weather forecasting. The Kenyan rain makers’ knowledge not only helped in improving weather-related disaster prevention in Kenya, but earned the Kenyan Meteorological Department (KMD) British and Canadian funding.

St. Pierre’s (2018) view on “scientism” offers further insight for countering the homogenizing view of science as promoted by the Royal Society of London. Citing Jurgen Habermas, St. Pierre (2018) decries scientism as that cognitive anomaly that forces its victims to believe “that we can no longer understand science as one form of possible knowledge but must rather identify all knowledge with science (p. 9)”. To rub in the import of warnings about a wrong conception of science, (Denzin 2019, p. xii) writes:

The science tent has gotten bigger, or there are now many different versions of what science is. Many propose a model of qualitative science that is interpretive and practical, a science that matters, a science based on common sense, focused on values and power, relevant to the needs of ordinary citizens and policy makers. There are calls for local science, for new ontologies and epistemologies, indigenous science, interpretive science,

post human, post materialist science, decolonizing sciences, science as a socially situated practice, science based on feminist standpoint methodologies

We reviewed the above insights to preview various versions of science that Global South journalists may embrace in their science journalism labor. The version of science that Global South's journalism need to promote is not only the versions outlined by (Denzin 2019, p. xii). The version of science that journalism in Nigeria should promote is the version that recognizes that our learning in the Global South should "perfect and standardize the philosophy and scientific validity of our indigenous science" instead of focusing only on the science of "abstraction, weighing and measuring" which connives at laws erected by politicians "to denigrate as illegal, indigenous science and technology" (Cajete 2008, pp. 491–506).

In other words, the science that Global South's journalists must uphold is the type of science that helps indigenous scientists to adapt and assimilate Western science by using the "shoulders" (Puebla 2015, p. 392) of the giants of Western scientists as a pedestal to create new science perspectives in ways that will enable indigenous scientists and their counterparts in journalism to realize that "to imagine another version of science is to extend our participation in the present version" (Kuntz 2020, p. 24). Using Nigeria as an exemplar, we now focus on how the Global South's journalists fare in science journalism.

2.3. Science and Science Journalism in Nigeria

The notion that the best science must be based on common sense and be seen as relevant to the needs of ordinary citizens might not be apposite in any other place than in Nigeria. It is not an overstatement to say that one aspect of science and technology that Nigeria badly needs today is the aspect that borders on the science of oil and gas. That Nigeria is among the countries with remarkable crude oil deposit is knowledge in the public domain. Ninety percent of Nigeria's economy is sustained by oil (Vanguard 2022). When any country's economy depends on only one product in the manner that Nigeria's depends on only oil, such a country would descend into an intractable problem if the country and its journalism fail to promote, prioritize, and leverage the input of its indigenous scientific knowledge in discovering, processing, refining, distributing, and consuming that single product.

From the time crude oil was discovered in Nigeria to the present, the science and technology of crude oil discovery, and that of its refining, remained under the apron strings and monopoly of Global West's science and technology. Successive administrations in Nigeria—both civilian and military—did not see anything wrong in surrendering the science and technology of crude oil refining to the poorly disguised shenanigans, whims, and caprices of Global West's science. Instead of looking inwards to see the contributions that indigenous science and technology could make, successive administrations in Nigeria continued to rush to Global West's science and technology to build refineries for Nigeria—including the moribund ones built in the 1970s and 1980s (Adesoga 2021). The erroneous thinking then, which continues today, is that Global West's science will transfer the science of crude oil refining in a manner that will perpetually make Nigeria not look inwards to native but indigenous scientists for home-grown refining know-how.

The on-going death throes induced on Nigeria's economy by the "corruption-riddled regime of petroleum products price subsidy" highlight the myopia of surrendering the critical science of crude oil refining to only Global Western science (Umoru et al. 2022, pp. 5, 35). The contradictory and inconsistent figures reeled out by Nigeria's National Petroleum Corporation (NNPC) to indicate the volume of petroleum products consumed daily in Nigeria demonstrate the quagmire and the catch 22 situation that the petroleum products price subsidy regime subjected Nigeria to. The NNPC is pushing out inconsistent daily consumption figures. These figures fluctuate from 60 million liters per day (Elumoye et al. 2021) to 65.7 million liters per day (Umoru et al. 2022), and yet to 46.3 L per day (Nnodim et al. 2021).

These inconsistent daily consumption figures pushed out by NNPC matter not only because NNPC is vested with the monopoly of importing, but also of prevailing international market price of, all petroleum products consumed by Nigerians. More critically, these figures matter because only NNPC calculates and collects, based on the dubious projected daily consumption figures, the subsidy that the Nigerian government pays NNPC to enable it import and sell refined petroleum products at a price lower than what prevails in the international market. The sting in this fraudulent process, a process that is wrecking the economy, is that even when the daily consumption figures that NNPC forwards are less than what Nigerians consume daily, NNPC will still coax the Nigeria government to subsidize up to the spurious consumption figures it cooks up. The pain in this dubious subsidy shenanigan occasioned by Nigeria's inability to locally refine petroleum products for local consumption is captured in bleak prophecies.

Asu (2021) quotes Adetunji Oyebayi, a former Managing Director of Mobil Oil Nigeria, who decries Nigeria's dependence on imported petroleum products thus: "It is unfortunate. The country is suffering. Nigeria is bleeding in so many ways". In their report, Umoru et al. (2022) cite Femi Adesina, the Special Adviser on Media and Publicity to President Buhari lamenting about the debt that Nigeria incurs because of borrowing in order to buy refined petroleum products at the prevailing international market price. Adesina as cited laments as follows:

... recall that Nigeria's total debt is currently more than N38 trillion. In fact, the Senate last year approved some loan requests by the government, including \$6.1 billion, another \$16,230,077,718 and \$1,020,000,000; head or tail Nigeria will pay the price. It's either we pay the price ... but if that will not come, more borrowing will come.

What is triggering these dire prophecies is Nigeria's inability to use indigenous science to produce her petroleum product needs. This inability yoked Nigeria to the torture stake of importing and subsidizing Western science-produced petroleum products. Common sense demands that when a country is suffering the way Nigeria is suffering because of petroleum product subsidy, such a country should activate whatever is within her powers to break the stranglehold. Nigerians and their government are saying and doing things to address the country's dependence on imported petroleum products. Below are the methods and design we invented to present and analyze what Nigerians are doing and saying about the challenge of crude oil refining and petroleum product availability in Nigeria.

3. Design and Methods

The task of all social science researchers is the "generation of knowledge" (Kuypers 2010, p. 291). This is regardless of whether such researchers use the quantitative or the qualitative research method. Kuypers informs that the methodology available to both quantitative and qualitative researchers in their "task of knowledge generation" is different (p. 291).

Most importantly, Kuypers states that for qualitative researchers who are concerned with formation of judgment and choice, "technical efficiency is not everything" because "beyond the area of formula, there are areas where understanding, imagination, and knowledge of alternatives operate" (Kuypers 2010, p. 291). In this regard, Kuypers' view that "various methods exist for studying phenomena that surrounds us" (p. 292), coupled with the assertion that "the personal qualities of a researcher heavily affects the choice of what to study, how and why to study a particular phenomenon" (p. 291), influenced our method decision.

Our view of methodological rigor is cognizant of the fact that there is a difference between what constitutes methodological rigor in quantitative and qualitative research. Unlike in quantitative methods where rigor means "hard data that are not compromised by subjective instincts" (Manen 2001, p. 17), qualitative rigor on the other hand is tied into the "soft, soulful, subtle, and sensitive effort to bring the range of meaning of life's phenomena to reflexive awareness in non-rigorous texts" (Manen 2001, pp. 17, 18). The foregoing

resonates where [St. Pierre \(2013, pp. 467, 473\)](#) notes that qualitative rigor is the rigor that should “free” researchers from “constraints of existing structure to enable researchers to “think the unthought” in a way that is “provocative, risky, breathtaking, stunning and astounding in manners that should transform the world”. In this paper we submitted to the foregoing by embracing data triangulation ([Roulston 2010, pp. 83–85, 116, 123–25](#)). Our data triangulation is executed by sampling 11 newspaper texts, email comments from a journalist who wrote one of the sampled newspaper texts, another journalist who writes about artisanal refining in Niger Delta and an atmospheric scientist who researches black soot pollution in Niger Delta.

We sampled the 11 newspaper texts from straight hard news reports, which feature articles and editorials within a span of two years (2021–2022). The rationale for such a span is that the devastation caused by fuel subsidy and availability of refined petroleum products in Nigeria worsened within this period. Polemics about these worsening challenges also intensified to dominate as never before the news hole of the five major national newspapers from which we sample the 11 texts.

The reason for sampling only the 11 newspaper texts out of the avalanche of texts about crude oil refining and availability in Nigeria is not idiosyncratic. When qualitative researchers conduct critical discourse analysis, they do not select the whole news text, all feature articles, or all editorial texts for analysis. What they do, as we did, is indulge in context stripping.

When qualitative researchers do “context stripping” ([Maxwell 1996, p. 79](#)), they select only a “portion of the total work” ([Sillars and Gronbeck 2001, p. 25](#)). Context stripping tradition finds resonance where ([Splichal and Dahlgren 2014, p. 56](#)) note that in selecting texts for discourse analysis, qualitative researchers need to be aware that “whenever one word, a phrase or a sentence is as important as the rest of the contents taken together, only the one word, a phrase or a sentence should be taken”. [Silverman \(2006, p. 308\)](#) affirms that what is paramount is for the researcher(s) to write an intelligent and coherent essay with what is selected.

It is important to also note that unlike in a quantitative study, where sampling is statistically conducted to reflect the population and to optimize the generalization criterion, in qualitative research, researchers “do not use a statistical sample but use purposive sample” ([Fusch et al. 2017, p. 932](#)). Qualitative researchers do not use statistical sampling because they, in their research, are not looking for a representative sample, but instead, the sample that represents the particular participants who have the knowledge, skills and expertise relevant to the objectives, aims and the questions of interest in a study. In this light, therefore, our drawing of 11 hard news, editorial, features, and newspaper texts from leading national print newspapers within the two year span of 2021–2022, and our “data-triangulating” ([Roulston 2010, pp. 83–85, 116, 123–25](#)) such data with the interview comments from two reporters and from a scientist, is done in order not be seen as cherry-picking, but in accordance with the purposive sampling tradition that defines qualitative sampling practice. Let it be noted that the sampling tradition we are describing is the one that ([Silverman and Marvasti 2008, pp. 166–67](#)) explain by informing that “qualitative sampling targets settings and interactional contexts” that are replete with the kind of data necessary for the explanation(s) researchers want to construct. In describing this sampling tradition as theoretical sampling, ([Silverman and Marvasti 2008, p. 167](#)) we further cite [Mason \(1996, pp. 93–94\)](#), who clarifies as follows:

Theoretical sampling means purposively selecting groups or categories to study on the basis of their relevance to the questions, the theoretical position . . . and most importantly the explanation or account the researcher(s) are/is developing. (p. 167)

Above all, we state that in designing this paper, we tapped from the view that qualitative research design evolved and is now anchored on the principle of what works ([Maxwell 2015, p. 93](#); [St. Pierre 2013, p. 473](#)). In this paper, we believe that a “blend of artistic, expository and social scientific ways of data procurement and analysis” works ([Ellingson 2013,](#)

p. 414). Our belief that “globalized qualitative research is rejecting the Anglo-American standards” (Puebla 2015, p. 396) helped in convincing us to embrace the view that qualitative research now orients to “adaptation, alteration, malleability, diversity and evolution” Vannini (2015, p. 125). Our method of data analysis was submitted to and upheld the view that the “line between data gathering, representation and analysis in qualitative research is thin and overlapping” (Myers 2009, p. 165; Ellingson 2013, p. 414).

Analytic Interpretation

The analysis that follows is executed in a manner that submits to what qualitative researchers use in data analysis to accomplish “critical discourse analysis” (Galasinski 2014, p. 193; McQuail 2010; Kuypers 2010; van Dijk 2006; Fairclough 2001; Birch 1989). When they engage in data analysis, qualitative researchers do not pursue the production of “broad empirical generalizations of the sort that much traditional research sees as its goal” (Gill 1996, p. 155). Rather, what we did was the “construction of interpretations about certain ways of understanding the world in historical moments and in specific contexts” (Ang 2001; Smith 1996), which, in this case, is the Nigerian context, where the petroleum product subsidy regime, as occasioned by petroleum products importation, is destroying the economy. In this Nigerian context, we sampled and displayed for analysis eleven exemplars of Nigeria’s newspaper texts that express the challenges and how to overcome the challenges that Nigeria and Nigerians face because of Nigeria’s dependence on Western science and technology for refining and supplying the petroleum products that Nigerians need. Additionally, exposed in the sampled texts are the blinkers in what Nigeria’s government and journalists say and do about the version of science and technology that might help wean Nigeria from its dependence on Western science and technology for refining and providing petroleum products for local consumption. See Table 1 below for an example of the foregoing.

Table 1. Use of Suspicious Pronouns.

S/N	Newspapers	Exemplars	Dates
1	<i>Vanguard</i>	We must find options and create opportunities to address the hardships that stare our people in the face—Simon Lalung, Plateau State Governor (p. 5) (Umoru et al. 2022).	27 January 2022

Analytic Interpretation

Table 1 above is titled ‘Use of Suspicious Pronouns’ in order to call attention to the pronouns ‘we’ and ‘our’ in that textual exemplar we sampled from a story by (Umoru et al. 2022). The story is about a meeting convened by Nigerian governors and Nigeria’s labor congress. The agenda of the meeting included what the governors and the labor congress would do to tackle the subsidy regime that took a stranglehold on Nigeria’s economy, and by extension, the welfare of Nigerians. What underscores the seriousness of the utterance—‘the hardship that stares our people in the face’—in exemplar one (1) as uttered by Governor Simon Lalung of Plateau State, was the disruption of various social services in Nigeria because of the dark maneuvers that surround the availability of refined petroleum products in Nigeria. We call attention to those pronouns because careless deployment of such pronouns in news stories are known to create “simulated solidarity” in a way used by the powerful to gaslight and “assimilate leaders to the people” in a manner “which does not agree with real lived experience” (Fairclough 2001, p. 28). Table 2 below furthers this analysis.

Table 2. Exemplifying Restricted Variant and the Art of Saying Nothing.

S/N	Newspapers	Exemplars	Dates
1.	<i>This Day</i>	Following a threat by airline operators to shut down their operations tomorrow over the scarcity of aviation fuel, the Federal Government appealed to operators to reconsider their decision stressing that it engaged the relevant stakeholders to address the issue of scarcity of aviation fuel (p. 2), (Eze and Sumaina 2022).	8 May 2022
2.	<i>Daily Sun</i>	There is an urgent need for the Nigerian government to give legal teeth to its plan as announced by Vice President Yemi Osinbajo to collaborate with the relevant private sector operators and investors to establish modular refineries in the Niger Delta (p. 26), (Adesoga 2021).	26 March 2021

Analytic Interpretation

The title of the table above reflects our intention to call attention to the latent ideological meanings that those texts are wittingly or otherwise hiding. Let it be stated for avoidance of doubt that ‘ideology or ideological’, as used in this paper, means “representations of the world *which* contribute to establishing and maintaining relations of power, domination and exploitation” (O’Halloran 2017, p. 24). The first exemplar was sampled from a story by (Eze and Sumaina 2022) and (Adesoga 2021). The second exemplar is sampled from a story by (Adesoga 2021). Exemplar one in that table highlights how Nigeria’s inability to refine crude oil for domestic consumption prompted serious spike in the price of aviation fuel to precipitate a threat to shut down operations by airline operators. The second exemplar captures references where the vice president is reported as proposing a panacea for petroleum products importation and the subsidy that is corollary to it. The title of that table reflects our awareness that the phrase ‘federal government has appealed to operators to reconsider their decision stressing that it has engaged the relevant stakeholders to address the issue of scarcity of aviation fuel’ contains the art of saying nothing and speaking in restricted variant. The same discursive anomaly is also present in exemplar two. To be sure, the “art of saying nothing” is used to describe a discursive moment where the speaker speaks in such a way as to “make the audience overlook the fact that real issue is being avoided” (Hahn 1998, p. 150). On the other hand, the restricted variant of speech attracted interesting comments by experts. The restricted variant, or the restricted code of expression has a narrow range of options. When speakers use it, it helps them to avoid expanding on or elaborating on what they mean. The use of this code thrives on a shared sense of assumption. It orients toward a social category for which everybody has the same meaning for things. This means that it embodies the kind of practice conducive to a closed system, where a closed system is one that reduces the number of alternatives for participants. Where such restrictions are rife, manipulation is always easy (Gouldner 1976, p. 59ff; Littlejohn 1996, p. 197f; Gripsrud 2002, p. 32; Verschuere 1999, p. 118; Griffin 2000, p. 344).

In exemplar one of Table 2, the phrase ‘relevant stake holders’ leaves readers guessing what that could mean. For instance, it leaves them guessing whether by that the federal government means the Nigerian National Petroleum Corporation, the managers of the defunct old refineries in Nigeria, or the artisanal crude oil refiners. What we just said also holds true for the phrase “relevant private sector operators and investors” in exemplar two of table two. Table 3 below for further analysis on structural amnesia and modal categorical claim to truth and knowledge.

Table 3. Structural Amnesia and Modal Categorical Claim to Truth and Knowledge.

S/N	Newspapers	Exemplars	Dates
1.	<i>Punch</i>	... The only way is if there is local refining (p. 9). (Asu 2021).	18 October 2021
2.	<i>This Day</i>	This is more reason why we must fix our refineries so that our refineries can function optimally (p. 9) (Elumoye et al. 2021).	26 March 2021
3.	<i>This Day</i>	The Minister of State for petroleum Chief Timipre Sylva justifies the federal government's plan to rehabilitate the Port Harcourt refinery with \$1.5 billion (p. 1), (Elumoye et al. 2021).	26 March 2021
4.	<i>This Day</i>	The few small-scale refineries operating in Nigeria are facing a huge challenge of crude oil supply as NNPC continues to focus on exporting the commodity (p. 6), (Addeh 2022).	4 May 2022
5.	<i>Vanguard</i>	Since 2017 we started engaging the government ... to build modular refineries and LPG cooking gas plants. Many companies applied and paid huge amounts of money but up till now it has remained in the filing cabinets (p. 11), (Nkwopara and Alozie 2022).	29 April 2022
6.	<i>Vanguard</i>	Our loved ones would have been alive today if the operators of the refinery had done the needful by approaching the appropriate authorities to seek legal means of refining the crude oil (p. 11), (Nkwopara and Alozie 2022).	29 April 2022

Analytic Interpretation

The title of the table above is 'Structural Amnesia and Modal Categorical Claim to Truth and Knowledge'. Giving it that title means that the six exemplars contain the discourse anomaly entailed by both structural amnesia and modal categorical claim to knowledge and truth. Structural amnesia is a flaw that instantiates when the audience is deprived of angles to issues or events because of a failure on the part of journalists to ask all necessary questions to newsmakers. On the other hand, the modal categorical claim to knowledge and truth occurs when newsmakers and journalists leave out modal auxiliary verbs in situations where the inclusion of such verbs would attenuate the certainty of claims or predictions. Leaving the modal operators where they are needed supports a view of the world as transparent—as if it signals its own meaning to any observer without the need for interpretation and representation, thereby disguising the complex and messy process of information gathering, interpretation and dissemination, (Fairclough 2006, p. 170; Fairclough 2001, pp. 105–7). For not asking the utterer of exemplar one table one above to clarify as to whether his 'local refining' includes those of artisanal refiners, the reporters dropped the ball on effective reporting and advocacy for indigenous science.

The reporters who wrote the story from where we sampled exemplar two of the table above also dropped the ball of reportorial efficiency. They did so when they failed to use that context to make the case for artisanal refinery. They would make such a case if they used that context to remind the utterer of that comment that even if the four old refineries get fixed, the lack of the indigenous science component that broke them down in the first instance would, sooner than later, crop up again to take Nigeria back to square one if it fails to embrace and perfect the opportunity that artisanal refining offers. The same could be said about exemplar three. If the reporters engaged the minister with our observation

above about the unreliability of depending only on Western science-driven refining art, the minister would awaken to the potentials that indigenous refining holds.

The entailments of exemplar four in the above table provided unexplored opportunity by reporters to engage Nigerian policy makers on why they stifle alternatives that have the potentials to pull Nigeria out of its addiction to foreign-sourced petroleum products. Addeh's report, from which we sampled exemplar four, is a clear indication that something other than an altruistic motive is driving the misgivings that Nigeria's policy makers raise against not only artisanal refining, but anything, including government-approved small scale refineries, whose contribution can alleviate Nigeria's dependence on imported petroleum products. For failing to press NNPC officials on this issue, Addeh's report omitted a great opportunity.

What we have about exemplar four also applies to exemplars five and six of the same table. It beats rationality that in those two exemplars, Nkwopara and Alozie allowed Nigeria's minister of humanitarian affairs to get away with the comments we display as exemplar six. Let it be recalled that exemplars five and six were uttered when horrific disaster claimed more than 100 lives in an artisanal refinery incident in Abaezi Egbema in Imo State, Nigeria. If Nkwopara and Alozie were on top of their game, they ought to use the entailments of exemplar five to make the minister realize that the artifice conveyed in her exemplar six comments fell flat. Table 4 below discusses obfuscation of agency.

Table 4. Obfuscation of Agency.

S/N	Newspapers	Exemplars	Dates
1.	<i>This Day</i>	For instance, it was gathered that the 10,000 barrels OPAC refinery in Kwale which underwent test under Department of Petroleum Resources (DPR) has not been producing due to NNPC's inability to supply the raw material to the company while Walter Smith is also facing the same issue in its operation in Edo State (p. 6), (Addeh 2022).	4 May 2022

Analytic Interpretation

Most of what we said in the analytic interpretation of the entailments of Table 3 could also apply to this Table 5. One unique thing about the exemplar of this table is the obfuscation of the agency from whom the reporter, Addeh, gathered in the phrase 'it was gathered that the 10,000 barrels OPAC refinery in Kwale ...'. Such obfuscation of agency, we must reiterate, is suspicious because of what it does in news reportage. As noted by (Fairclough 2001, pp. 100–3; Sillars and Gronbeck 2001, pp. 262–64), the choice of (re)presenting or constructing textual features without agency attributions by text producers is never innocent/neutral. They note that the choice of (re)presenting/constructing an action process with agents responsible for the action in the process and/or the choice of hiding such agents or the patients of an action process is often ideologically motivated in a manner that could be used for hedging or deception.

The entailments of exemplar (1) lend credence to our view that when journalists in Nigeria parrot politicians' beliefs that Nigeria's emancipation from the crippling effect of importing refined petroleum products depends on local refining, what the politicians actually have in mind is a local refining that is driven by only Western science and technology. We did not only see a bias in favor of Western science in exemplar one, we see in addition, an intensification of the condemnation of whatever indigenous local science could offer in order to ameliorate Nigeria's derisive dependence on Western science for crude oil refining. What the hope of using Western science's refining technology to pull Nigeria from its dependence on Western science-built refineries ignores is the fact that Nigeria's four irreparable refineries were built and operated with the same Western science.

Table 5. Reporting on Psychological Plane.

S/N	Newspapers	Exemplars	Dates
1.	<i>This Day</i>	Indeed, the impact of illegal refinery on the Niger Delta environment has raised questions of great concern in the minds of the inhabitants of the region. This hazardous illegal refining process has led to many fatal accidents . . . polluted and blighted farmlands, creeks and lagoons (<i>Thisday 2022</i> , p. 26).	4 May 2022

To be fair, what exemplar one says about the negative impact on the environment of using indigenous science to refine crude oil might, to certain measures, be correct. What is not pointed out in that exemplar is the fact that the use of Western science to refine crude oil is equally not free from industrial, environmental, and health hazards ([Meriano and Rovere 2022](#)). The tenor of exemplar one and Nigeria's politicians who feel flattered when journalists express such unbalanced sentiments against the science of indigenous crude oil refining betray much ignorance. Apart from the fact that Western science's way of crude oil refining came a long way, incidents of explosions and other risks still trail it in ways, showing that Western science's crude oil refining technology is still evolving ([Meriano and Rovere 2022](#)). Since the science of crude oil refining in the West is still evolving, it is unknown as to why journalists in Nigeria do not realize that it would be better for the journalists to write editorials to help put indigenous crude refining on a pedestal as a legitimate, legal, and evolving indigenous science of crude oil-refining instead of the prevailing editorial diatribes that are wittingly or otherwise designed to lampoon and discourage the science and technology of indigenous crude oil refining.

To gain further insight, we interviewed the author who wrote the editorial from which exemplar one was sampled via email. Parts of the email interaction that we obtained from the author reads thus:

. . . They are supposed to be fed largely with crude oil for refining by NNPC Ltd. The modular refineries are conceived to help out fill a void. By their nature and size they can only refine small quantity (sic) of crude between 1000–10,000 barrels a day. But even more significant, they are equipped to produce mostly heavy products like diesel and other heavy products, not lighter ones like petrol . . .

We see in the interaction signs that the inability to get weaned away from status quo thinking influenced the writing and the tone of the editorial from which exemplar one was sampled. Our reading also provided us the premise to say that status quo thinking is the reason the writer failed to realize that crude oil refining, even at Western science's best, is never absolutely free from being dangerous and environmentally hazardous ([Ede 2019](#)). We are also persuaded, based on our reading of the feedback, to posit that the predictable tenor of the editorial, which merely echoed a diatribe against the use of indigenous science in crude oil refining, is part of the colonization of science labor that tricks science reporters in the Global South to believe that any scientific process that is outside the rubrics of Western science should be lampooned. To be sure, colonization of science labor is not only the power to "influence how science is organized and institutionalized in every society" ([Puebla 2015](#), p. 390), but colonization of science labor also starts from the "form of education that creates western superiority by arrogantly dismissing" alternative methods of knowledge production and utilization ([Bhattacharya 2020](#), p. 79). Our giving the title 'Reporting on Psychological Plane' to table five derives from 'Indeed, the impact of illegal refinery on the Niger Delta environment has raised questions of great concern in the minds of the inhabitants of the region'. This discursive style represents a shocking instance of simulating an omniscient narrator who arrogates to himself the omniscient competence of knowing what is going on in the mind of others. There are comments warning journalists to avoid such a narrative style. [Simpson \(1993, p. 38\)](#) informs that because both omniscient and first

person points of view narrate in ways that make a narrative event to be mediated through the consciousness of the teller of the story, their mode of reporting is referred to as points of view in the psychological plane. As Simpson notes, the quest to avoid meddling in the psychological plane of others is why the narrative technique of third person is preferred in journalism and news writing. According to Simpson, in the third person narrative technique, the narrator declines to report any psychological process and rather maintains a position outside the consciousness of the characters in the story. We know that exemplar one of this table broke this rule by claiming to know what is going on in the mind of the inhabitants of Nigeria's Niger Delta. It is our belief that this slip is motivated by nothing than a resolve to denigrate the indigenous science of crude oil refining in the Niger Delta.

In order to gain further insight on this line of reasoning, we interviewed a Port Harcourt-based professor who professes expertise in both crude oil refining and the impact of such refining on the environment. We interviewed the expert in order to learn his views about the adverse effect of the black soot that engulfs the city and its environs. We started our interaction with the professor by asking what his experience with journalists was during his government-sponsored study of the sources of the black soot. In response, the professor said:

My interaction with the reporters was cordial. I will wish to direct you to the report I wrote. Pages 14 & 15 detailed the tenor of my interaction with the reporters.

His interaction with journalists was robust during his assignment. When we asked him to substantiate what he meant by cordial interaction, he gave us a copy of a report (see Ede 2019). Our reading of the report furnished interesting insights. The first is that the soot pollution that threatens the atmosphere in Port Harcourt results from multiple sources, including the pollutants that come from the moribund Western science-driven refinery in the city. In spite of this fact, we observed that it is only the pollution from the artisanal refineries, not the pollution from the moribund Western science-driven refinery in the city, that the report and its media collaborators blame for environmental pollution.

To seek further clarification about journalists' take on the prospects of indigenous refining, we approached Samuel Oyadongha, who also wrote a diatribe against the phenomenon of indigenous crude oil refining. We asked for the reason he did not, in his alarmist rhetoric against artisanal refiners, enrich his views with seeking, obtaining, and including in his report comments about indigenous crude oil refiners from Nigeria's minister of petroleum. He retorted:

The minister's comment would not be different from condemning the "on-going assault on the environment as a result of the nefarious activities of illegal refinery operators". (Oyadongha 2022)

4. Conclusions

We consider it pertinent to say that the following concluding remarks are not made in order to state that our conclusion should be generalized to contexts that are different from that of Nigeria. Rather, our conclusion is just a "turn in conversation"—a kind of an "open question" that is not a "closed statement" but our way of "inviting others to consider what it could become" (Bochner and Ellis 2003, p. 507). In this light, what we state in the preceding paragraphs is the representation of the words and actions that convey the socio-economic challenges Nigeria endures as a result of its dependence on Western science for its domestic petroleum product needs.

Based on our analysis, we found that journalists' inability to challenge status quo thinking, coupled with a disguised coloniality of science labor in the discourses of the powerful, are the accessories that confuse journalists, forcing them to misreport the hopelessness in Nigeria's embrace of Western science as the panacea against its dependence on Western science to meet its domestic petroleum product needs. This inability is the reason why journalists in Nigeria, based on our analysis, see only nightmare and not dreams in the "experimental originality" that drives the commitment of Nigeria's artisanal refiners (Tracy and Reutlinger 2020, p. 57). This "cognitive imperialism" (Battiste 2008, p. 505),

which drives the journalists to only condemn indigenous crude oil refiners as the only culprits of air pollution even when studies (Ede 2019) show that air pollution also comes from other sources, betrays the ignorance of the invitation extended to Global South countries to “reconsider, rethink and reinvent what they think should be science” (Tracy and Reutlinger 2020, p. 71).

The imperialism is found to also betray the ignorance of the notion that “indigenous people should be encouraged to develop their own knowledge” (Battiste 2008, p. 503). This stretch of ignorance that Nigeria’s journalists betray is the reason they and the kleptocrats in Nigeria do not realize that what disabled the four former Western science-built refineries in Nigeria will not spare the new ones that they are, again, clamoring for. The colonization of journalists’ and policy makers’ awareness that the indigenous science of crude oil refining can pull Nigeria out of its dependence on imported petroleum products may also crop up in how Nigerian journalists and policy makers may act about other areas where indigenous science might proffer a solution.

We hope to pursue further analysis in order to ascertain whether Nigerian journalists or journalists from other Global South countries would, for instance, report indigenous health sciences, especially during periods of health emergencies, such as the COVID-19 pandemic, in a manner that would positively resonate with our theoretical framework (Fairclough 2001, p. 43), which decries journalistic reportage as usually marred by news evaluation tradition that “gratify the whims and idiosyncrasies” of the powerful.

Author Contributions: Conceptualization, F.A.A. and T.U.; methodology, F.A.A.; formal analysis F.A.A. and T.U.; investigation, F.A.A.; resources, F.A.A.; writing—original draft preparation, F.A.A. and T.U.; writing—review and editing, F.A.A. and T.U.; visualization, F.A.A. and T.U.; supervision, F.A.A.; project administration, F.A.A.; funding acquisition, F.A.A. and T.U. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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