

STYLISTICS

IN

THEORY AND PRACTICE

Edited by
Adebayo Lawal

The Great Debate

GRAMMAR

Colourless green ideas sleep furiously.
That's syntactically well-formed but
semantically nonsensical.

STYLISTICS

It depends on context and competence. e.g.

Colourless	= Vague, dull, nascent
Green	= fresh, yet undeveloped
Ideas	= thoughts, Concepts
Sleep	= lie in the poet's mind
Furiously	= worryingly, like a ferocious bug

**∴ VAGUE FRESH THOUGHTS LIE WORRISOMELY
IN THE POET'S MIND LIKE A FEROCIOUS BUG =
VAGUE FRESH THOUGHTS BUG THE POET'S MIND.**

CONTENTS

Dedication		
Acknowledgements		iv
Prefaces		v
Chapters		vi
1. The Application of Linguistics to Literary Criticism: Controversy and Prospects	- GBOYEGA KOLAWOLE	1
2. Semiotic Perspectives on the Place of Linguistic Competence in a Theory of Literary Competence	- ADEBAYO LAWAL	11
3. Aspects of a Stylistic Theory and the Implications for Practical Criticism	- ADEBAYO LAWAL	25
4. Scale and Category Grammar in Stylistic Studies	- VICTORIA. A. ALABI	48
5. A Linguistic Analysis of English - Medium Soccer Commentary on Radio	- WALE OSISANWO	70
6. Style in Scientific Prose: A Case Study in an ESL Context	- STEPHEN BILLY OLAJIDE	93
7. Stylistic Features of the Legal Discourse	- VICTORIA. A. ALABI	106
8. Linguistic Realism in Emergent Nigerian Dramatic Literature	- SOLA. T. BABATUNDE	119
9. A Pragma-Stylistic Study of M. K. O. Abiola's Historic Speech of June 24, 1993	- JOEL OLATUNDE AYODABO	132
10. Pragmatics in Stylistics: A Speech-Act Analysis of Soyinka's "Telephone Conversation"	- ADEBAYO LAWAL	150
11. Axes to the Roots: A Lexico-Semantic Analysis of Tunde Olusunle's <i>Fingermarks</i>	- SOLA. T. BABATUNDE	174
12. The Stylistic Significance of Focus Constructions in the <i>Ofo</i> Corpus	- BADE AJAYI	184
13. Pragma-sociolinguistic Features of Yoruba Nicknames	- S. S. AJILEYE & M. K. AJILEYE	195
14. Ogundare Foyanmu's "Ìbà Olódùmarè" : A Stylo- rhetorical Analysis	- GABRIEL. A. AJADI	205
15. A Stylistic Analysis of the Quranic "Verse of the Throne"	- A. G. A. S. OLADOSU	217
16. Niyi Osundare as a Master Metaphorist: A Case Study of <i>Village Voices</i>	- DEMOLA JOLAYEMI	231
Appendix		243
Index		265
List of Contributors		270

STYLE IN SCIENTIFIC PROSE: A CASE-STUDY IN AN ESL CONTEXT

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1.0 ABSTRACT

This chapter presents the characteristics of scientific prose with a view to assisting the students in identifying, describing, and explaining the striking features of scientific writing. The chapter is also intended to guide him or her in effectively undertaking scientific writing. As such, the reader is first given an overview of some aspects of the existing theory of stylistics, before indicating how stylistics relates to scientific writing. An attempt is specifically made to justify a stylistic study of scientific prose written in English as a Second Language (ESL) by analysing a sample of scientific prose.

2.0 INTRODUCTION: BACKGROUND TO THE THEORY OF STYLE

Different scholars of stylistics have expressed different views about the discipline. Quintilian, a first century rhetorician, defined it as involving the ensuring of correctness, clarity, elegance, and appropriateness in what is said or written (Beaugrande and Dressler 1981). Some modern stylisticians (Ohmann 1964; Crystal and Davy 1969; Levin 1977) regard it as an account of the semantic force of phonetic, intonational, syntactic and lexical structures that a writer employs in his text. This view is based on sentence linguistics that brings into focus the written and spoken forms of discourse in which certain linguistic features are peculiarly used. As such, the stylistician can rely on a few features selected from the language of the text as being good evidence of stylistic uniqueness. Literary stylistics is specifically applicable to literary texts where the writer can afford the use of flowery and seductive language to appeal to his reader's imagination. But the literature-oriented approach to the study of style is restrictive. Thus, other stylisticians, like Halliday (1983), Beaugrande (1993), and Ghadessy (1993), believe that the linguistically significant features of the written text (in particular) should not only be describable and interpretable; they should also permit its placement within the ideological context.

In a socio-rhetorical perspective, Leech (1966) identifies two scales of institutional delicacy. The first is the register scale which explains the functions of language across human activities by

distinguishing spoken language from written language, the language of respect from the language of condescension; and the language of advertising from the language of science (p.138).

The second is the dialect scale which is consummated in the individual language user's habit within his linguistic community. Factors like age, sex, social class and geographical location affect the dialect scale. Leech (1966) thus points to the social implications of stylistics by recommending that the register and dialect scales be brought under focus in the investigation of textual style. Registers can generally be considered as the structured combinations of textual, contextual and thematic features that serve as variables influencing verbal discussion in a specific situation (Volosinov 1973).

The impression given by Beaugrande (1981), Crystal and Davy (1969), Halliday (1983), Leech (1966), Myers (1990), and Volosinov (1973) that stylistics has to do with sociological factors has received greater attention in more recent literature. The socio-political element of 'ideology' has been said to be particularly dominant in scientific discourse. Huntson (1993) sees the production of a text as a social process because it plays a role - it establishes the point of interaction between the writer and his reader. She opines that since the social system incorporates ideologies, the text is written to be understood within the context of a particular ideology. The ideology within which a text is written should determine the writer's choices of discourse pattern, grammar and lexis. It informs the pre-eminence assigned to features in the text, and dictates how such features are related, as well as how they exert pressure upon one another.

3.0 IMPLICATIONS FOR SCIENTIFIC DISCOURSE

The ideological view about stylistics seems to take the discipline into wider contexts because it can be applied to other areas of human activity that are traditionally not described in metaphorical, therefore literary, language. Science is one such area, and scientific writing is the focus of this chapter. Scientific writing must meet the communicative expectations of the reader, which epitomize the link between linguistics and sociology. The objective nature of scientific writing may explain why research articles (usually prepared by following scientific procedures) are considered as 'a suitable

corpus' for stylistic study (Huntson 1993:58). Value judgments do not vary much across empirical research articles which are a form of scientific writing. The scientific writer does not use much of attitudinal language. As such, he cannot be quite personal and subjective. Yet, he is out to persuade his reader to accept his (the writer's) knowledge claim (Abimbola 1996). Scientific writing contains facts that can be cross-checked by referring to other works in the same area.

The two types of pressure on the scientific research writer (i.e., the need for objectivity and persuasiveness) appear contradictory and have been identified as a sociologically motivated dichotomy which Myers (pp. 141 - 142) (1990) tags "the cultural authority of science" (pp. 141-142). A suspicion of that dichotomy possibly prompted Bazermann (1984) to propose that the effective scientific writer should distance himself from his discourse by not employing first person pronouns, that the report be objective and mathematically modelled, and that scientific writing should contain claims which are based on verifiable data that are obtained from nature experimentally. Scientific writing should strictly relate 'work' to 'object', in a nutshell.

In this connection, whatever is personal can be separated from the impersonal in the scientific writer's style. Huntson (1993) suggests the use of "Relevance Markers" for such a task in an ideological context. She describes the Relevance Markers as meta-discoursal and relevant linguistic elements which play an organisational role. It should be pointed out that the role of organisation and patterning has been emphasized in much of the different forms of stylistic theory so far examined. To stress the role, linguo-rhetorically motivated stylisticians like Leech (1966), Widdowson (1977) and Yankson (1987) have advanced different devices of cohesion, such as those of foregrounding and parallelism. Yankson (1987) has made extensive use of "feature markers", although if such markers are not carefully applied to a scientific piece, its ideological import may not be fully recovered and explained.

4.0 THE CASE-STUDY

In this chapter we have taken the pains to survey the 'state of the art' this far in order that our area of interest may be brought into proper focus. The style of scientific prose, the concern of this chapter, is worthy of consideration for a number of reasons, especially in a situation where English is used as a Second Language. First, students of science, at the outset, should be exposed to the demands of scientific writing, so that they could anticipate and meet the demands as they mature in the community of scientists. By so doing, the students would cultivate healthy communicative strategies and become

scientists of their dream who should give their nation the badly desired technological breakthrough (FGN 1981). Second, non-scientists, especially students of modern languages, education, and the social sciences need be led through an appropriate methodology to recognize and be able to explicate scientific discourse.

Hence, this chapter intends to identify, describe, and explain the significant features of a specimen piece of scientific prose. The piece is a research article from a volume of the journal of the Science Teachers' Association of Nigeria (STAN) which is deemed to reflect the true characteristics of writing among that group of Nigerians charged with the discovery and development of the country's future scientists.

Thus, from the specimen text – 'who is a Scientist' (Gyuse 1986) – the present writer has used the Table of Random numbers to randomly select ten structural items for his analysis. Selecting items for stylistic study by using the Table of Random Numbers is a practice that Kenny (1982) considers appropriate.

The simplest method of producing a random sample from a text is to number the items of the text (words, lines or sentences) and then choose by a random process a number from which to start one's sample (p. 163).

The selected items are now numbered serially as a sample that serves as data for the analysis involved. A lexical or syntactic feature considered striking in each item is then italicized for emphasis by this writer. At the end of the item, the source page is put in brackets to facilitate intra-textual and extra-textual discussion. The semantic and ideological import of the striking features are focused in the entire analysis.

Sample I

Several studies *have been published* which *describe* the *image* of the scientist from the perspectives of secondary school level students, university level students and the general public (Bajah and Okebukola 1984; Jungwirth, 1973; Meed and Metraux, 1957; Robert and Nay, 1970; Simpson and Anderson, 1981; Withey, 1959; Ziman, 1981). P. 120).

The sentence above contains 41 words and eight dates. Thirty-one of the words are content items calling up specific images in the reader's mind. Thus, the lexical density of the sentence is high, which makes it quite communicative. That a sentence should be made informative by infusing it with more content words than functions words is stressed by Miller (1980).

Scientific writing cannot be less informative. Hence the writer (Gyuse 1986) being investigated here attempts to put much into that complex sentence. Incidentally, the sentence serves as introduction to the entire report, thereby pre-defining the macrothematic context of the discourse.

Lexical items like 'studies', 'students', 'published' and 'scientists' help to further contextualize the text procedurally and spatio-temporally. Other items like 'school' and 'university' enhance this context. The use of 'image' can have a catachretic effect on the reader by which he is induced to conjecture around 'human face', which partly captures the point at issue in the article. The many personal names brought into the sampled sentence also have elucidatory context-defining effects. The scientific writer wishes to back her claim with 'several studies' that 'describe' objectively the issue at stake. The empiricist predilection of the scientist is further illustrated with the use of dates of publications. Had such dates been left out, certain vital effects would not have been created by her. For example, the dates help us to see how far she has delved into the literature in order to objectivize her discourse, and also indicate the temporal span and enduring nature of the claim.

The arrangement of the clauses of the sentence helps the writer in achieving her mission. By putting 'studies' in the main clause, she projects them as being the platform of her claim. And the relative clause well announces the manner she would write – 'describe'. Both clauses cohere, for the one is modified by the other.

At the same time, one tends to suspect the scientists' intention. Whereas the main clause gives an impression that she intends to be objective, the subordinate clause suggests that she may be subjective to an extent, since, she, like those she cites, is concerned with *describing* the 'scientist'. It must be noted that any description would involve a form of value judgment, however minimal.

The sentence also contains the passive element – 'have been published'. This enables the writer to distance herself from her purpose. It is a device meant to enhance objectivity through which a piece of prose can be scientific. At the graphological level, she employs comma, semi-colon and brackets so that she would be able to compound parallel structures into a coherent whole.

Sample 2

This paper *concentrates* on one *element* measured by *TOURS*, namely, Students' views of 'Scientists as "People"'. (p. 120)

The sentence contains sixteen words; only six of them are not content, which means that sample 2 is as informative as Sample 1. Sample 2 also

contains a figurative usage "... paper concentrates ..." which is an instance of personification, a device that has earlier been used in Sample 1 where 'several studies describe ...'. The device seems to enable the writer emphasize the place of objectivity in scientific thinking. A 'paper' or 'study' is thus an objective medium through which the scientist seeks and communicates knowledge.

The sentence also contains the passive construction signalled through 'measured by' which enables the writer to further distance herself from her work. More quotation marks and apostrophe are employed to ensure that the text remains communicative in a precise way. The use of the acronym TOURS which names an instrument used in the study being reported by the scientist makes the sentence memorable, and demonstrates the scientist's love for pointedness and parsimony in communication, while not compromising clarity.

Sample 3

The Secondary school students *are credited* with 4 - 5 years science experience (Primary School Science may not be *assumed* for any of the respondents). (p.121).

There are nineteen words in the sentence. Twelve of the words are content, a condition that makes the sentence quite informative. The use of noun adjectives to modify educational concepts appears striking, as in 'secondary school students', 'primary school science', and 'science experience'. The adjectives further contextualize the discourse which treats an educational matter. The two passive elements present in the sentence further enhance objectivity. It is a complex sentence, with the subordinate clause tucked in the brackets. The brackets ensure economy of expression and make it possible for the writer to bring into focus the parallel passives, 'are credited' of the main clause, and 'be assumed' of the subordinate clause. Semantic parallelism is also achieved by the use of 'credited' and 'assumed', both of which share the feature / + state of mind /.

Sample 4

The test *was intended* to be *short, clear* and *easily understood* by the respondents. (p.121)

This sample is a simple sentence. The speculative nature of science, and the scientist's supposed objectivity appear illustrated in the writer's use of

'intended' and 'understood'. The test used by the writer to carry out her study must have **taken her time**; and is central to the validity and reliability of her findings in the study. Hence she describes the test in some details, employing double adjectives, as in 'short, clear', in this sentence. The adjectives enable him to point to different attributes of the test. Thus, it may be assumed that the scientific writer tends to throw considerable light on the procedures and concepts involved in the subject of writing.

Sample 5

The data gathered here *show* to what *degrees* the different populations involved subscribe to the *author's* views (p.122).

Like the other sampled sentences, the sentence above has a high lexical density because it contains more content words than function words. The sentence features another instance of personification – 'data show'. By using 'subscribe', a verb that does not involve much passion, the writer seems to wish to be polite in indicating others' acceptance of her point of view. Items like 'extent' and 'people' could be substituted with 'degree' and 'population' respectively, but the writer prefers the latter set because they help to provide the right pragmatic context for the text. The scientific basis of the text is better shown with the use of 'populations' and 'degrees'. Again, the sentence involves passivization.

Sample 6

Table 1 *suggests* that an overall *majority* of the *respondents* agree that the reason scientific papers are usually very *exact and reliable* is because the results of one scientific enquiry are *generally tested by other scientists* (p. 123)

Striking lexical items in sample 6 include 'suggests', 'majority', 'respondents', 'agree', 'exact', and 'reliable'. They point to the empirical basis of scientific prose which often demands that the writer exercise restraint in expressing the conclusiveness of his/her claims or findings. It should be noted that the two adjectives here are used attributively. Sample 6 which introduces a sub-topic, is another complex sentence, like sample 1. It can therefore be deduced that sentence arrangement in the text under investigation follows a macro-thematic pattern.

Sample 7

This rather *cynical* response probably reflects the level and seriousness of research done by science lecturers. (p.123)

The writer's use of 'cynical', above, suggests some emotiveness in her style. That she employs 'seriousness', another emotive item, in the same sentence, makes her a little involved in the view she is expressing. However, she does not wish to be absolutely certain in her claim. The writer avoids the use of an article ('a' or 'the') before 'research' possibly in order to show that the latter is an accepted universal practice that does not require modification in the present context. The universal and cooperative nature of research appears further enhanced by the writer not pluralizing it as 'researchers'. Similarly, 'response', a register that belongs more to psychometrics than sociology has scientific overtones. A replacement of the word with a synonym may affect the tone of the text.

There is a recurrence of noun adjectives. 'science', a noun, is made to modify another noun, 'lecturer'. The first instance of the feature was in sample 3. The process further enhances the rhetorical quality of the text showing the scientist's urge to clearly present facts by describing and relating.

Sample 8

Scientists are honest and *self-critical* in their work because these *attitudes* are part of their *personal qualities*:

- a) Both the statement and the given reason are true.
- b) The statement is true, but the given reason is not.
- c) The statement is not true, but the reason given as such is true.
- d) Neither the statement nor the reason is true (Required Response = b). (p. 128)

The sample above is a compound complex sentence. Like other samples, it contains few function words. To reinforce the cooperative sense introduced by her use of 'research' in sample 7, the researcher here employs 'work'. Both items are in synonymous relation. Thus it may be deduced that scientific prose does not pluralize lexemes like 'research' and 'work'. It should be noted that 'attitudes' collocates with such other words as 'seriousness' (Sample 7), 'respondents' Samples 6, 4 and 3), and 'response' (Sample 7) because they are elements of the psycho-social register.

In order to achieve cohesion in the sentence, the writer employs some graphological devices of note. The sentence is first presented along the proposition - resolution scale. The first part is a statement, the value of which can only be pointed out by selection from the second part that is a list of options. Both parts are separated from each other with colon, projecting the structural and rhetorical distinctiveness of the sentence. It may also be significant to note that in the second part of the sentence, each option, introduced with a serial letter, begins with a capital letter, but does not end in a fullstop, except the last (option-d). The writer uses comma, capitalization, brackets, and the mathematical symbol of equality (=) to add and demarcate pieces of information. The mathematical symbol has a meta-communicative effect. The answer suggested may not be right, but that cannot be the point at issue, here. Sample 8 generally suggests that logic and cohesion are a part of the efficient scientist's analytical tools.

Sample 9

The data presented in this paper have indicated that significant differences of opinion regarding the *personal qualities* of *scientists* exist between a general population of secondary school students, university lecturers and laboratory technologists and research *scientists*. (p.131).

The sentence establishes the frequency of such items as 'personal qualities' (already used in sample 8), 'scientists' (used twice in the present sentence, used in samples 2 and 1, besides its adjectival ('scientific') and noun ('science') forms in samples 3, 6 and 7), 'populations' (in sample 5), and 'research' (employed in sample 7 and collocated as 'scientific enquiry' in 6). This subtle repetition of lexical items constitutes a lexico-syntactic feature used by the writer to give focus and cohesion to her message.

The sample is a complex sentence. It introduces the concluding section of the article, and is significant in the direction of samples 1 and 6. This type of structure may have been induced by the need to introduce an important decision.

Sample 10

First, we must note that secondary school students are taught by university graduates who are themselves taught by university lecturers (p. 133).

The foregoing is in the conclusion to the article and is complex. Complex sentences seem preferred in this section because the scientist has,

got to discuss and evaluate her findings. The logical principle of deduction is applied in the sentence probably to show the relationship between scientific thinking and social life. This dialectical relationship appears further illustrated in the syntactic subordination that the sentence involves. The device may be viewed as appropriate in that it extra-textually underpins the social relation being described - secondary school students are produced by the university undergraduates, the latter being products of their lecturers, too. The writer seems to be out here to show the utilitarian value of science which Huntson (1993) has observed.

There are other aspects of the text under investigation which would not be amenable to randomization, but which should attract stylistic attention. The writer uses other graphological devices like tables, charts and lines. These are sub-titled to reflect the different aspects of the subject of discourse. The contents of the tables are mainly mathematical. A table is often annotated. The charts in the texts are histogrammic. The use of bold print and italics, abbreviations, formulae, codes and symbols are equally noticeable, especially in the body of the text. These various devices serve to condense information and bring facts into sharp focus.

5.0 CONCLUSION

Stylistics is concerned with identifying, describing and explaining whatever is striking and recurrent in the written or spoken text. Stylistics can be applied to texts of all disciplines because they use language in their own respective ways. Therefore, scientific prose is as amenable to stylistic analysis as literary, medical or historical discourse. As enunciated in the available literature, and confirmed in our case-study, scientific prose is concise, impersonal and precise. Largely, the scientific writer uses all sorts of lexical, syntactic, semantic and graphological devices to achieve necessary textual and extra-textual effects, especially to reflect a fairly detached attitude towards the subject of discourse. Thus, scientific writing contains a striking use of repetition, passivization, punctuation, numerals, symbols, codes, abbreviations, occasional personification of scientific elements, concepts and procedures (without the use of heightened language), tabulation, lexical and structural parallelism, syntactic co-ordination, and subordination to present ideas from a largely objective position.

The writer of scientific prose often puts across the substance of his prose clearly enough to make it possible for others to follow his procedure for the verification of the claims he makes. As such, the writing is data-based in most cases. Still, he has to point out what he considers to be the significance of his

procedure which would lead to his recommendation on procedural principles. All this constitutes his subtle way of persuading his reader to take his procedure and claims as valid and reliable till further investigation proves him or her wrong.

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TEXT INVESTIGATED

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