

**A DISCOURSE ANALYSIS OF
EDUCATIONAL RADIO PROGRAMMES TO FARMERS:**

Adaptations in Register

BY

ALICE W. KIAI

**A DISSERTATION SUBMITTED IN PARTIAL
FULFILMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF ARTS IN THE
UNIVERSITY OF NAIROBI**

JUNE, 1996

DECLARATION

This dissertation is my original work and has not been submitted in any University.



ALICE W. KIAI

This dissertation has been submitted for examination with our approval as the University Supervisors:

DR. RUTE G. N MARETE



DR. KITHAKA WA MBERIA

UNIVERSITY OF NAIROBI LIBRARY



0101808 4

DEDICATION

To you my parents, Adriana and Peter, for your support through the years

and

To my brothers, Patrick and John, who are always there for me.

ACKNOWLEDGEMENTS

I would like to extend my heartfelt gratitude to the people who made it possible for me to pursue this degree course: Ms. Mary Ngechu, Project Leader of the Radio Listening Groups Project, and Project sponsors, the International Development Research Centre. Without their support, this work would never have been.

Special thanks to my supervisors, Dr. Rute G.N. Marete and Dr. Kithaka wa Mberia for their useful suggestions and encouragement as I progressed with the work.

Grateful thanks to Dr. Kimani Njogu of Kenyatta University and Prof. Okoth Okombo, Mr. Kukubo Barasa and Mr. John Habwe of Kikuyu Campus, for reading materials and fruitful discussions.

To Dr. Saida Yahya-Othman of the University of Dar-es-salaam for taking time to respond in writing to the questions I had, and to the Department of English, Kenyatta University for access to their Resource Centre - thank you.

Many thanks to the following people: my father, Mr. Peter Kiai who frequently brainstormed with me and assisted in transcription and translation, Miss Lucy Nyambura who helped with the fieldwork, Mr. Tinda Mauga for technical assistance, Ms. Mary Ngechu and Mr. Martin Kweyu for computer facilities, and the farmers who willingly responded to my questions and enabled me to come up with a balanced perspective.

I'd like to thank my classmate, Noyuri Nimura for sharing these two years with me and the students, lecturers and staff of the Department of Linguistics and African Languages, University of Nairobi for broadening my mind during my time here.

Last but not least, many thanks to my English Language teacher at 'O' Level, Mrs. Kanja, and my Literature teacher at 'A' Level, Mr. Kithuku, whose encouragement and support years ago made me believe in myself.

For all those who have been an encouragement to me by word or deed, I thank you.

ABSTRACT

This study is a discourse analysis of agriculture and health programmes to small-scale farmers. These farmers have formed Radio Listening Groups and educational programmes have been prepared for them in areas of their interest.

We compare scientific materials written in English that are used to develop radio programmes and the actual programmes in Kiswahili and Kikuyu. Analysis takes place on two levels: the lexical and stylistic.

At the lexical level, we investigate register - specific words and the methods of adaptation used to render them suitable for the audio medium and the audience in question. These include: borrowing, code-mixing and calquing, among others.

The stylistic level involves classification of written and radio materials into discourse genres, and a comparative study of how the written language has been adapted for use as spoken radio language using the Speech Act Theory.

At the stylistic level, we have looked at a second aspect that is present on radio but not in written scientific documents. These are involvement strategies. For these, we have focused on visual and audio mnemonic techniques as well as paralinguistic features.

At each of these levels, we have described the adaptive techniques and secondly sought input from farmers in order to establish whether these adaptations are successful in presenting science messages to the target audience.

CONTENTS

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	v
CONTENTS	vi
ABBREVIATIONS USED IN THE STUDY	ix

CHAPTER ONE

1.0	BACKGROUND TO THE STUDY	1
1.1	RESEARCH PROBLEM	3
1.2	OBJECTIVES	4
1.3	HYPOTHESES	4
1.4	JUSTIFICATION FOR THE STUDY	5
1.5	SCOPE AND LIMITATIONS	9
1.6	CONCEPTUAL FRAMEWORK	9
1.7	LITERATURE REVIEW	12
1.8	METHODOLOGY	18

CHAPTER TWO

2.0	SIGNIFICANCE OF LEXICAL ADAPTATION	19
2.1	SIMPLIFICATION	20
2.2	BORROWING	22
2.2.1	UNASSIMILATED LEXICAL ITEMS	22
2.2.2	ASSIMILATED LEXICAL ITEMS	24
2.3	CODE-MIXING	28
2.3.1	CODE MIXING AND TRANSLATION	28
2.3.2	CODE MIXING AND ELABORATION	30
2.4	CALQUES	32

2.5 ALTERNATION33

2.6 OBSERVATIONS34

CHAPTER THREE

3.0 THE PROGRAMME DEVELOPMENT PROCESS35

3.1 FUNCTIONALISM Vs. FORMALISM35

3.2 SPEECH ACT THEORY36

3.3 PROCEDURAL DISCOURSE39

3.3.1 DIALOGUE STRUCTURE AND ILLOCUTIONARY FORCE42

3.3.2 PERSONAL Vs. IMPERSONAL LANGUAGE43

3.4 HORTATORY DISCOURSE45

3.4.1 EXPRESSIVES45

3.4.2 COMMISSIVES47

3.5 MONOLOGUE IN DIALOGUE48

3.5.1 ASSERTIVES49

3.6 EXPOSITORY DISCOURSE51

3.6.1 LOGICAL RELATIONS52

3.6.2 DIRECTIVES55

3.7 MONOLOGUE56

3.7.1 VOCATIVES58

3.8 NARRATIVE58

3.9 OBSERVATIONS60

CHAPTER FOUR

4.0 INVOLVEMENT STRATEGIES61

4.1 VISUAL STRATEGIES; FIGURATIVE LANGUAGE62

4.1.1 METAPHORS62

4.1.2 SIMILES64

4.1.3 IMAGERY66

4.1.4 PROVERBS67

4.1.5	JUXTAPOSITION.....	70
4.1.6	CONNOTATIVE NAMES	70
4.1.7	RHETORICAL QUESTIONS	71
4.2	SOUND STRATEGIES	73
4.2.1	PARALINGUISTIC EFFECTS	73
4.2.2	REPETITION	74
4.3	ANECDOTES	77
4.4	COMIC RELIEF	78
4.5	OBSERVATIONS	79

CHAPTER FIVE

5.0	SUMMARY AND CONCLUSIONS	80
5.1	RECOMMENDATIONS FOR FURTHER RESEARCH	81

APPENDIX I:	QUESTIONNAIRE TO RESPONDENTS	83
APPENDIX II:	LIST OF RESPONDENTS	86
RADIO PROGRAMME REFERENCES		88
REFERENCES		90

ABBREVIATIONS USED IN THE STUDY

The following is a list of abbreviations used in the study:

RLG Radio Listening Group(s)

... Continuing Utterance

CL Chronological Linkage

PR Participant Reference

IF Illocutionary Force

IU Initiating Utterance

RU Resolving Utterance

TU Terminating Utterance

Q Question

$\bar{Q}$ Counter Question

Pro Proposal

Rem Remark

A Answer

Res Response

Ev Evaluation

Acq Acquiescence

Rej Rejection

CHAPTER ONE

1.0 BACKGROUND TO THE STUDY

Radio Listening Groups (RLGS) in Kenya have developed as a result of research carried out in the Department of Distance Studies, University of Nairobi.

A feasibility study by Ngechu (1989/90) established that small scale farmers, many of whom were illiterate, had few sources of reliable information. A project aimed at educating farmers and availing tested, proven and practical research information through Radio Listening Groups was established.

The sample chosen for this particular project consisted of small scale farmers in Nyeri and Embu districts of Kenya. Thus, the Department of Distance Studies sought to extend its reach as an educational organ to a relatively untapped group of potential learners who have to a great extent been sidelined by existing channels of information.

Use of Radio Listening Groups is a method of learning that already exists in Tanzania, Zimbabwe, Zambia and other African countries, with modular variations. The Kenya model is designed as a continuous 'course' of study, based on the needs of the learners/audience in the sense that programmes are developed according to what learners say they are interested in knowing. Formation of Radio Listening Groups continues to date.

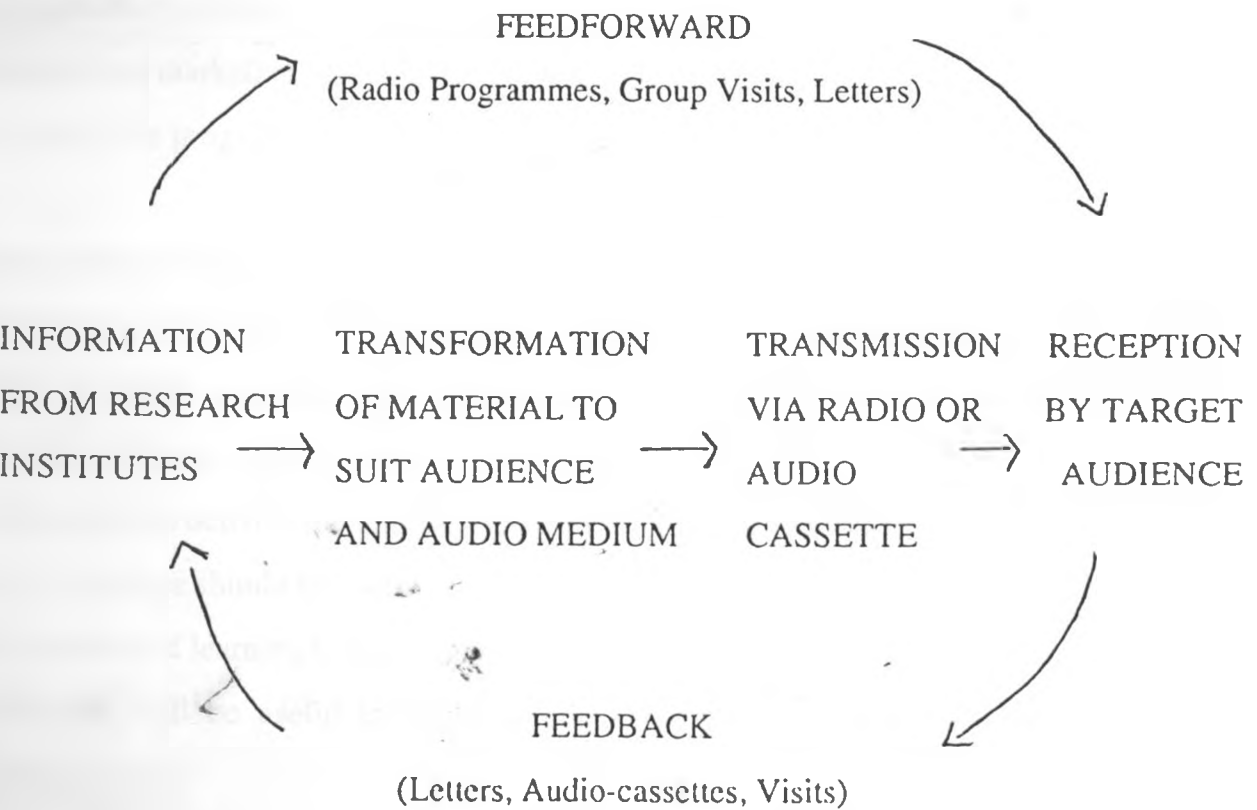
RLGs have created 'mini-classrooms' in villages so that a combination of group dynamics and radio lessons will lead to understanding of messages and implementation of taught practices.

The initial programmes to these groups were broadcast in Kikuyu over the Central Service of the Kenya Broadcasting Corporation (K.B.C). Kikuyu is the first language (L1) of the majority of these farmers, and the groups that had first language users of Kikamba and Kiambu could also understand the language. All these languages belong to the same family:

Central Kenya Bantu group (Mohlig and Heine,1980:14). Programme production and broadcast went on over much of 1994 and part of 1995. Due to the success of these programmes, RLGs have continued to expand and more recently programme production in Kiswahili, the National language, began in readiness for dissemination to a wider audience. Presently, possibilities for expansion into other vernaculars is being considered.

The programmes are geared towards achieving change in behaviour through acceptance of new ideas while moulding and modifying existing knowledge to achieve better results. It is an educational communications endeavour, based on Pask's Conversational Theory and Participatory Communication Theory. In Conversational Theory, understanding develops through agreements between the participants, which subsequently leads to learning. There is no clear distinction between teacher and learner (Hartley and Davis, 1978:57). It is participatory in that learner's are involved and constantly consulted in the education process.

A Diagrammatic Representation of the Kenya RLG Model



Farmers meet once a week to listen to their educational programmes. The group is regarded as providing an enabling environment that allows for sharing and concretization of learning.

1.1 RESEARCH PROBLEM

As the diagrammatic representation indicates, information has to be transformed on its journey from the source to the receiver in two ways:

- (a) It has to be manipulated to suit the audience (farmers who are members of RLGs)
- (b) Written information has to be converted to a mode of delivery that is suitable for the spoken medium (radio).

Between the subject matter specialists and the farmers, there exists a linguistic as well as a knowledge gap. The RLG Project attempts to bridge this gap by preparing radio programmes that are linguistically and stylistically appropriate to the farmer. This has demanded a process of materials development in the areas of agriculture (animal and plant husbandry), health, nutrition and marketing. Specialists have therefore prepared manuals and notes specifically for use by the programme producer in order to develop programmes in these areas.

In our study we have analyzed the methods used in, and effectiveness of the transformational component. This component requires that materials written in factual, academic English be made accessible to farmers in a language and style that suits them. We have aimed at providing insight into the discoursal and stylistic techniques that have been used in the RLG programmes to deliver educational science messages. An analysis of these and their effects on the audience should be useful in developing effective ways of transferring science from the corridors of learning to the farmer through radio. It is hoped that an elucidation of these techniques will be useful to linguists, educationists, radio programme producers and communicators.

1.2 OBJECTIVES

Our objectives are:

- (a) To investigate how RLG programmes have dealt with register specific words across language.
- (b) To establish the mapping strategies that have been used to develop radio programmes dialogically from written scientific materials.
- (c) To establish the stylistic involvement strategies that have been used to achieve naturalness and spontaneity of speech in the radio programmes.
- (d) Having established these techniques, to assess the effectiveness of their use for radio learning by the target audience.

Our first objective constitutes the lexical part of this study. Here, we have investigated the innovativeness of language that is in contact with other languages in terms of growth and expansion of vocabulary for register specific words in agriculture and health.

The next two tasks constitute the stylistic part of this study, for which we have established the various discourse genres in use, the speech acts encoded within them, as well as the involvement strategies that have been used. Finally, we have assessed the impact of these techniques on the audience.

1.3 HYPOTHESES

We have hypothesized that:

- (a) Through lexical innovation, local languages can be used as mediums of learning in the sciences: agriculture and health.
- (b) Educational science messages can be innovatively adapted in their surface realization to suit the demands of an alternative medium and audience for effective learning to occur.
- (c) Involvement strategies have a role to play in message retention and effectiveness when communicating scientific ideas to farmers.

1.4 JUSTIFICATION FOR THE STUDY

Languages that are in contact with, and are open to new innovations, expand their lexicon, and speakers develop techniques for conversing and writing in several new areas eg. modern science and technology. English, for example, has borrowed heavily from other languages of the world. Due to the expansionist policy of the British Empire in the last century, it has spread to many parts of the globe. Speakers number over 250 million, and it is understood by many more worldwide (Barry, 1965:79). This figure has greatly increased over the last twenty years.

Today, there are courses in English for Specific Purposes with Science and Technology being a major sub-division. The language uses specialized terminology and specific styles in various disciplines. Foreign students need to get acquainted with these. In Kenya, English is the official language and the language of instruction. Possession of a language of international communication, and ability to follow academic arguments, enables the educated to access information all the time.

The aim of RLGs is to improve farmer adoption of research results. However, these results are in written, academic English. Simplified materials to the radio producer are also usually in English. Most of the audience do not possess this language and some are illiterate. Language need not be a factor in learning, so long as the language in use can adequately express the requisite information in a manner acceptable to the audience.

A case to point is in Japan. The Japanese have become world leaders in science and technology and have adapted their language accordingly. They have three writing systems: Hiragana, Katakana and Kanji. Katakana is especially useful for writing borrowed words, while Kanji is a borrowed ideographic system from China. The Japanese have borrowed words and concepts and made them their own, eg. 'mararia', 'bitamin', 'eizu' and 'biirusu/ uirusu' which are English based derivations for malaria, vitamin, AIDS and virus respectively. Sometimes the word is not simply assimilated, but used as a loan translation and spelt using one of the writing systems. The following translations are written as pronounced from the

Kanji script:

Japanese	Loan Translation	English
tonyobyō	sugar urine disease	diabetes
tansuikabutsu	carbon water thing	carbohydrates
sacchuzai	kill insect	insecticide
saikin byōgenkin	small disease origin germs	virus

(Personal Communication)

The language situation in Kenya is not as homogeneous as in Japan, where Japanese is the language of instruction and its development along these lines has been virtually inevitable. In Kenya, where English is the medium of instruction and local languages serve social functions, an attempt to use local languages for sustained health and agriculture education to farmers should bring to light several characteristics of language and message development in teaching science to farmers using radio.

The language situation in the Philippines provides another interesting perspective. A study carried out in the Philippines asked the following question:

“ Would a person need to know _____ (language) to be successful?”

For people with occupations that did not require academic training (carpenters, farmers, fishermen, housewives or market sellers) Pilipino, and/or vernacular were considered necessary. Pilipino, English and Vernacular were required by clerks, doctors, lawyers, mayors, midwives, policemen, priests, secretaries, surveyors, teachers and veterinarians (Kennedy, 1983:91). Pilipino is the National language of the Philippines, and the number of languages spoken is estimated at 87.

Here we have a situation comparable to that of Kenya. The new innovations that could change or better the lives of those without academic training are in the hands of specialists who know English, indeed for whom English is one of the languages considered to be a prerequisite for success.

RLGs have tried to develop a direct link between the knowledge source and the user because new knowledge should not remain inaccessible or not readily accessible to the people it was meant to serve. RLGs suggest that there are techniques of making such information available by crossing the line of rigorous academic language into that of everyday life. Several thinkers have expressed the belief that science should serve man and not man serve science:

Rosen (1972:124) writes:

“Science is not an impersonal construction. It is no less and no more personal than other forms of communicated thought. Science searches the common experiences of people: and it is made by people, and it has their style.”

He acknowledges that most subject learning is expressed almost entirely in impersonal language while the L1 is “acquired almost entirely through linguistic experience and activity.” (Rosen, 1972:121). Thus, the language of education, often highly formal and register specific, cannot be accessed by learners until it is made to interact with the learners’ experience and past learning.

The organization of scientific discourse need not have a universally acceptable model. Even in Western societies, from which our universities have evolved, the various types of scientific discourse show cultural differences towards science and research. A comparative study of French and English scripts on Hodgkin’s disease revealed the following differences, among others:

- (a) Surface Organization (more typographical markers in French than in English)
- (b) Illocution (English aimed at informing and convincing while French aimed at informing; offering no evaluation or assertion. Regent (Riley, 1985:108).

Science, and the characteristics that it comes to embody can therefore serve as a reflection of different societies. Further justification for this kind of study can be seen in the following thoughts from different scholars:

For Hymes (Tannen, 1989:166), discourse should be both cognitive and aesthetic; imparting ideas and feelings simultaneously through words and the form that these words take.

Pratt (1977:129) writes that the language of science is moving increasingly towards artificiality and unrecognizability, as associated with Bertrand Russell's philosophic stand that ordinary language is loose and imperfect and altogether unsuited for philosophy and science. The scepticism about use of ordinary language becomes scepticism about ordinary people. This she compares with the language of the poets, which is equally distanced from ordinary language. Specialized becomes equal to special, the scientist's ideal audience is fellow scientists and the poet's, poets.

Shirley Brice Heath (Tannen, 1989:173) quotes the poet William Carlos Williams and cites classical and medieval rhetoricians to the effect that literate knowledge depended ultimately on oral reformulations of that knowledge.

Sacks (Tannen, 1989:198) shows that modern medicine in contrast with earlier naturalistic medicine has resulted in a 'real gain in knowledge coupled with a real loss in general understanding.' He advocates for a personal physiology, a personalistic neurology as opposed to a soulless neurology and a bodiless psychiatry.'

These arguments indicate that the style of the oral mode is often more effective than the written mode in leading to understanding. It is the more familiar and more easily recognizable method of our everyday interaction. Radio can exploit its unique characteristics for educational purposes by simulating any number of real life situations, in order to develop understanding of science messages.

We contend that how a message is presented is as important as what is presented to the audience. Thus, our study is based on how features of lexis and style have been adapted in radio programmes developed from scientific documents.

1.5 SCOPE AND LIMITATIONS

In this study, we cannot look at all the dynamics of communication and message development in the RLG model (Ref. Page 2). Specifically, we have studied the lexical and stylistic strategies that have been employed to develop radio programmes for farmers from written scientific materials. This study is restricted to what we consider to be the core of materials development in the educational process, ie. the transformational component. It involves receiving information from research institutes and converting it from:

- (a) one medium to another (written to spoken)
- (b) one channel to another (visual to audio)
- (c) one language and style to another.

These involve script-writing, followed by production and broadcast of the programmes. It is these areas that we have perceived to be of interest in a discursal analysis of educational radio programmes for farmers.

1.6 CONCEPTUAL FRAMEWORK

For this study, we have used the Speech Act Theory as developed by Austin (1962) and Searle (1970).

The Locutionary Act (LA) is the communicative act, ie. the use of speech/speaking. However, there are numerous ways in which something can be said. Linguists have therefore asked questions such as does X have the force of a question? Austin distinguishes between Locutionary Acts (LA) and Illocutionary Forces (IF) which encode the intention of the speaker. Saying something produces certain consequential effects upon the feelings, thoughts, actions of the audience. These are Perlocutionary Effects (PE).

Searle has classified Speech Acts as follows:

- | | |
|-------------|---|
| Assertives: | commit speaker to the truth of an expressed proposition eg. stating, suggesting, demanding. |
| Directives: | intended to produce effects on hearer eg. ordering, commanding, requesting, advising. |

- Commissives:** commit speaker to some future action eg. promising, vowing , offering.
- Expressives:** make known speakers psychological attitude towards a state of affairs eg. pardoning, praising, condoling.
- Declarations:** words that bring about a corresponding effect in reality eg. baptism, marriage.

Different types of discourse have different purposes, but sometimes the form in which they appear are not necessarily what one would expect, simply because of the necessity of presenting messages in the most effective way possible - a way that may not necessarily be synchronized with the usual appearance of that discourse type. This leads us to the idea of notional and surface structures (Longacre, 1983).

Notional and Surface structures arise out of the need to classify the various types of discourse eg. a set of procedures may be given in the form of a story in order to suit the need of the moment. This shows that although the underlying intent may be to explain a set of procedures, it need not mean that the material must be presented in one particular format; there are many techniques at hand for a skilful creator. The scientific materials written in English have been used to establish the notional structures of selected idea units. The radio programmes prepared in Kiswahili and Kikuyu have been used to determine the particular adaptations deemed suitable for the presentation of the concepts inherent in the notional structure, as well as the involvement strategies that have been used in this process. Lexical transformations also occur, and these have been considered in the light of linguistic strategies deemed most suitable to describe them. Both languages have been used in order to adequately cover the discourse types under study.

Notional structures of discourse conform to the overall purpose of the discourse and surface structures deal with the form. Discourse form is a response to the communication situation. (Longacre:1983:3)

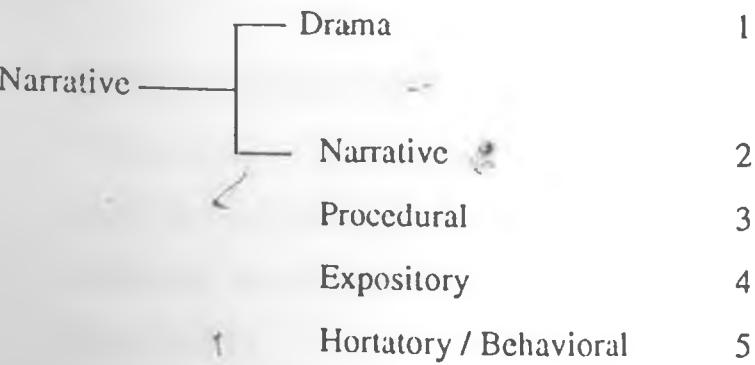
Longacre's classification of discourse types along primary parameters (Longacre 1983:7) is as follows:

- (a) **Contingent Temporal Succession (CTS) or Chronological Linkage (CL).**
Here events depend upon previous events, ie. B occurs because A has occurred.
 - (b) **Agent Orientation (AO) or Participant Reference (PR) .**
Here, events are dependent upon an agent who is sometimes identified throughout the discourse. There are two secondary parameters:
 - (c) **Projection:** a course of action is considered but not realized.
 - (d) **Tension:** there exists a struggle, or opposition of some kind.
- Organization along the primary parameters has led to the following classification of discourse types:

Discourse Type	Primary Parameters	
	CTS/CL	AO/PR
Narrative Discourse	+	+
Procedural Discourse	+	-
Hortatory/Behavioral Discourse	-	+
Expository Discourse	-	-

Classification according to the secondary parameters requires further breakdown of the notional discourse types into their constituent parts, details of which have not been focus in this study. This study has used as a guideline the broad-based classification of the primary parameters. Drama is not included in the notional discourse types because ‘it is preeminently a surface structure phenomenon, a way of telling a story in the most vivid possible form.’ (Longacre, 1983:6).

Classification according to vividness



Because the radio programmes usually have a minimum of two characters, we can say that they constitute a dialogue, although the idea units may encode any of the above mentioned notional discourse types of monologue. This is because dialogue and monologue are autonomous, yet related. Just as monologue sometimes includes dialogue, dialogue may sometimes include monologue.

Surface structure of a simple dialogue

IU: INITIATING UTTERANCE (Initiated by speaker 1)

encodes

Q: Question (A true solicitation for information)

Pro: Proposal (declarative, imperative, interrogative)

Rem: Remark (A request for evaluation by the other person)

RU: RESOLVING UTTERANCE (Usually by speaker 2)

encodes

A: Answer (Resolves question)

Res: Response (Resolves proposal)

Ev: Evaluation (Resolves remark)

A third possibility is:

TU: TERMINATING UTTERANCE

encodes

Acq: Acquiescence

Rej: Rejection

1.7 LITERATURE REVIEW

“The analysis of discourse is necessarily the analysis of language in use. As such, it cannot be restricted to the description of linguistic forms independent of the purpose or function which these forms are designed to serve in human affairs.” (Brown and Yule, 1983:1)

This kind of orientation demands that we maintain a pragmatic approach to the study. The media that we have studied are distinct: written and spoken language, and they serve distinct functions. The uniting factor is the content: science materials. Brown and Yule have stated that the form should suit the function and this suggests that there has to be some degree of transformation in the presentation of these works.

Tannen (1989:7) described Discourse Analysis as interdisciplinary, and selected the following 9 disciplines that it embraces: Linguistics, Anthropology, Sociology, Psychology, Literature, Rhetoric, Philosophy, Speech Communication and Philology. Discourse Analysis is applicable to language in any form: novels, plays, classroom interaction, conversation and interviews, some of which are observable in radio learning.

Karanja (1993) analyzed the structure of the K.B.C television interview. This study is similar to the extent that we are also partly dealing with a medium that has mass reach and utilises the spoken word, albeit in a manner different from that of spontaneous everyday speech. Further, as we shall see, one of the methods used to adapt scientific notes to the particular learning situation under study is that of interviews; which can be remodelled when developed into radio programmes.

Crystal and Davy (1969:68) have provided insight into two kinds of variability in language that have provided broad guidelines for our study:

(a) Medium: (i) Differentiation between speech and writing.

(ii) Simple vs. Complex discourse medium.

(b) Nature of Participation: Difference between monologue and dialogue.

These notions are useful to us in explaining the particular characteristics of the variety under study. Written radio scripts are a complex medium because they are a temporary device intended to facilitate transfer to another medium at another time. They consist of language that is written to be spoken. This has led us to expect to find features that we would not ordinarily find in oral communication being used in the spoken radio format.

In the radio programmes, we expected to find is an interesting mix of integration and involvement as opposed to the fragmentation of everyday speech and passivity of the written scientific text. This is dictated by the need to get the message across in a limited time, using the most effective means to do so.

Chafe, Tannen (1982:39) discusses the 'fragmented' nature of spoken language as compared to the 'integrated' quality of the written form.

"Integrated refers to the packing of more information into an idea unit than the rapid pace of spoken language would normally allow."

Radio language, though spoken, is developed from writing and of necessity must share certain qualities with this medium. In making the comparison between written science materials and their subsequent development into science radio programmes, we have found a degree of shared characteristics. That this is to be expected is supported by Cook (1989) and Ong (1982).

Cook (1989:50) points out that a transitional zone between the spoken and the written exists, and that a rigid classification of language into spoken and written forms would fail to describe this transitional zone of language use. These include intermediate cases between the written and spoken word: plays, talks and lectures are all examples of spoken language learnt from script. Secondly, he contends that spoken language exhibits different styles and cannot be lumped together in a single corpus. Language can be largely one way eg. lectures or two way eg. conversation. Cook has therefore characterized spoken discourse as planned or unplanned, socially structured or less socially structured, aided by writing or unaided by writing, and less reciprocal (one way) or more reciprocal (two way). RLG radio programmes are planned, socially structured and aided by writing. Although the radio is a one way channel of communication, various methods have been used to create reciprocity, apart from which programmes are developed based on farmer feedback.

Ong (1982:156-7) describes secondary orality as use of telephones, radio, TV, sound tapes,

etc. and primary orality as everyday speech. The latter is more deliberate and conscious than the former, yet strives to attain the spontaneity which belongs to primary orality. However, Ong argues that spontaneity in secondary orality is contrived and these media are dominated by a 'sense of closure' - the fixed point of view and fixed tone.

Rosen (Tannen, 1989:102) cites Gilbert and Mulkay (1984) who contrast the way a scientist wrote about a scientific idea in a journal and the way he told about it in an interview. All emotions and drama were absent in the former, but present in the latter.

"Storytelling is a means by which humans organize and understand the world, and feel connected to each other. Giving voice to the speech of people who're depicted as taking part in events creates a play peopled by characters who take on life and breath."

This is a question of modality. Crystal and Davy (1969:75) describe modality as being partly a question of suitability of form to subject matter. Factors such as mode of delivery, medium and audience will affect the form. Forms cannot be rigidly maintained irrespective of circumstance.

The works of Crystal and Davy, Tannen, Cook and Ong have been useful to us in placing the radio programmes in the categories of discourse medium to which they belong, and the nature of participation that they encode. With this orientation, we have attempted to investigate how the written medium, constructed in scientific academic language, both lexically and stylistically has been manipulated to become more 'user friendly'.

Rosen (1972:121) has emphasized that pupils learning science in school are faced with a highly formal language type with distinctive features whose idiosyncrasies have to be mastered. As neither the language nor the style is open to the target audience, strategies have been devised to open up a world of new knowledge in agriculture and health to farmers.

Tannen (1989:17) takes a detailed look at 'involvement strategies'. These are techniques considered important in uniting sender and receiver in the communicative act, and are

considered important in literary discourse. They have been divided into:

Strategies that work primarily on sound

- (a) Rhythm
- (b) Patterns based on repetition and variation of: phonemes, morphemes, words, collocations and longer discourse sequences.
- (c) Style figures of speech

Strategies that work primarily on meaning

- (a) Indirectness/implicature
- (b) Ellipses
- (c) Tropes (metaphor, metonymy, irony).
- (d) Dialogue
- (e) Imagery and detail
- (f) Narrative

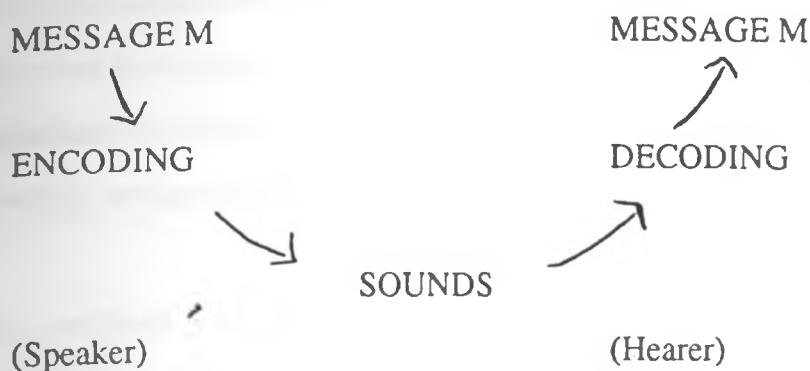
These examples have provided us with a broad base for the involvement strategies that we expected to find as the written scientific work is mapped onto the audio mode for the target audience. Involvement strategies evoke realistic situations that the learner is well able to relate to; simply because they are designed to parallel real life situations.

In analyzing and categorizing the involvement strategies that have been used, we have taken a stylistic approach and have attempted to answer the question of how language has been manipulated to produce its final impression on the audience. Stylistics sets out to describe the linguistic characteristics of all situationally restricted uses of language - in this case, radio science lessons for RLG farmers.

Traditional communication theories have been based on a message model through which communication is achieved by encoding and decoding messages. This is inadequate because messages carry along with them inferences which simple decoding of the locutionary act will not account for.

The Message Model

(Modified from Akmajian et al: Linguistics: An Introduction to Language and Communication, 1990:310)



The message model was found to be descriptively inadequate in that it does not account for the inferential component of comprehension while concentrating on the aspect of decoding.

Akmajian et al point out specific weaknesses, among others:

- (a) Failure to account for communicative intention: threat, promise etc.
- (b) Failure to account for non literal meaning eg. sarcasm.
- (c) Failure to account for the fact that sometimes we intend to communicate more than our utterances mean.

Therefore, although encoding and decoding are important in communication, inferential strategies indicate that understanding a communicative event requires that those involved realize the purpose of that communicative event. Linguistic communication is made possible when the hearer recognizes the speaker's communicative intent. The radio programmes are educational, therefore techniques used in encoding must be successfully decoded for the expected learning to occur.

The works of Searle (1969), Longacre (1983) and Larson, (1984) have been useful in developing a framework to show how the structuring and IF of messages play a role in successful decoding of messages.

1.8 METHODOLOGY

The bulk of information for this study has been obtained from transcribing and translating selected idea units from the radio programmes. These are idea units that correspond to their written version in the scientific manuals. Through a comparative process, we have identified strategies that have been used to adapt messages to suit the audience. This comparative process has also involved identifying lexical adaptations in terms of borrowing, calquing and code mixing, among others.

Secondly, we have prepared a questionnaire for the recipients of these programmes from which we have sought to establish the techniques preferred in their educational programmes. These techniques are based on the findings derived from the two levels of programme analysis. In this, we have established preferences in terms of understanding of messages and willingness to implement these messages on the basis of message presentation.

CHAPTER TWO

2.0 SIGNIFICANCE OF LEXICAL ADAPTATION

We have hypothesized that local languages interact with the language of science, written in English, in order to meet the demands of a particular communicative situation (radio learning). The first level of interaction that we will study is the lexical level. Here we look at how RLG programmes on health and agriculture have dealt with register specific words across language.

Register specific words develop as a discipline acquires the need for accuracy and meaning-specific words. Programmes have been developed in both Kikuyu and Kiswahili. In Kenya, our local languages are not used for teaching subject matter, but this is precisely the use to which they are being put in the RLG programmes. Diverse situations make languages expand their repertoire, and teaching science over radio in local languages is one of these. New linguistic forms appear when speakers feel that their language no longer adequately encodes reality.

“Language extends itself to cover topics and appear in a range of forms of discourse for which it was not previously used. The process of modernization has two aspects:

- (a) Expansion of the lexicon of the language by new words and expressions.
- (b) The development of new styles and forms of discourse.” (Fishman, 1968:32)

Baron (Anderson and Jones, 1974:58) writes that the problems of language inadequacy in encoding existing reality are confronted more seriously by the sciences, which have developed alternative lexical repertoires and modified syntactic relations. She says that a thorough analysis of the inadequacy problem would have to examine as a central feature the transformations of ordinary language into scientific languages. Here we investigate how ‘ordinary’ language interacts with the specialized vocabulary of the sciences (agriculture and health) and uses the opportunity to enhance the lexicon in these areas by developing communicative strategies to deal with register specific terminology.

Karanja (1993:98), in her study of the KBC interview, says that technical jargon involving lexical items can get their meaning derived from the context, but technical jargon involving a whole utterance or description creates problems. She further contends that the extensive use of such jargon can create disinterest in the audience, and its elaboration would serve two roles:

- (a) ensuring continued interest of the audience.
- (b) maintaining discourse coherence.

This area of 'technical jargon' is of interest to us precisely because programme development is in areas that rely on specific terminology to achieve accuracy. With accuracy being paramount, the languages under study have had to evolve methods of dealing with specific words in the areas of agriculture and health, while striving to maintain discourse coherence and sustain audience interest. Scientific vocabulary insulates it from associations of common use, sometimes making it inaccessible to the learner. The radio programmes have adapted the vocabulary in question in order to achieve greater accessibility to the subject matter using various methods.

2.1 SIMPLIFICATION

A comparison between lexical items used in the specially prepared scientific documents and their counterparts in the radio programmes reveals that there is yet further reduction in complexity. Where there is a choice between a simpler and more complex lexical item, the former is invariably selected.

In a document on Bananas by Dr. E.W. Mutitu of the Department of Crop Science, University of Nairobi, the general and specific terminology for various diseases is indicated. More general terminologies are incorporated into the radio programmes:

"Banana thrips - *harcinothrips bicinctus* ...

Panama disease - *fusarium oxysporum* ...

Cigar End Rot - *stachylidium thiobomae* ..."

In these instances, the specific scientific designations for these diseases are not included in their radio descriptions.

Apart from selecting less rather than more complex terminology, simplification also occurs at the level of translation. Where highly register specific terms have been used, concepts rather than lexical items are put into translation for presentation on radio. For example, a section entitled 'Feeding of the Calf' in a document on Dairy Calf and Heifer Management by Dr. C.K Gachuri, Department of Animal Production, University of Nairobi had the following information:

"At birth, calf is **non ruminant** since the **reticulo rumen** is not functional. Most digestion occurs in the abomasum, therefore calf should get a liquid diet. Abomasum makes up 50% of the weight of the stomach of newborn calf, while the rumen and reticulum make up 67% of the weight in a 16 week old calf."

The highlighted lexical items are explained through hyperonymous generalization and elaboration of the concept without resort to register specific lexical items as in the following Kiswahili programme on Calf Weaning, Dr. Kimani Njogu P 29 Dec. 1995:

Esta: Tena ndama huwa tumbo zake zote hazifanyi kazi, ila utumbo moja tu.
(Again, all the calves' stomachs are non functional, except for one)

Paulo: Eeh, kama nguruwe?
(Eeh, like a pig?)

Esta: Ndio, kama nguruwe. Kwa hivyo anahitaji chakula majimaji kama maziwa.
(Yes, like a pig. So it requires watery foods like milk)

Thus, simplification involves formulating generalized hyperonymous versions of register specific terminology whereby a generic cover term, in this case 'stomach,' is used to explain specifics. As we shall see in the following section, use of generics together with borrowed specifics is useful in maintaining accuracy where necessary.

2.2 BORROWING

“The introduction into a language or dialect of elements from another language or dialect by contact or imitation.” (Hartman and Stork, 1972:29)

2.2.1 UNASSIMILATED LEXICAL ITEMS

One category of words that get borrowed exactly as they are from the source language into the receptor language are names of chemicals, medicines and some diseases. This category remains fairly stable and largely consists of brand names or names of human, plant and animal diseases that are borrowed directly into the language. In Kiswahili:

“Majina ya dawa hizo ni Clexon, Butalex na Terit.”

(Those medicines are called Clexon, Butalex and Terit).

“Kuna dawa nyingine, kwa mfano Steldone.”

(There are other medicines, for example Steldone)

(East Coast Fever, Dr. Kimani Njogu. P 21 Dec 1995)

“... ununue dawa zitiwazo antacid kama vile Actal, Malox, Digene.”

(... buy medicines called antacid for example Actal, Malox, Digene).

(Peptic Ulcers, Dr. Kimani Njogu. P 28 Dec. 1995)

“... ambayo yanaweza kujikinga na ugonjwa ya Panama ni kama ule mfupi unayoitwa Carendish.”

(... that can prevent themselves from getting the disease of Panama, like that short one that is called Carendish)

“madawa ya fungicide kama vile dithiocarbonate ... diaznon ...”

(fungicides like dithiocarbonate ... diaznon ...)

(Bananas, Dr. Kimani Njogu. P 23 Dec. 1995)

In Kikuyu:

“... na kindu kiria mbembe ciendaga ikihandwo ni nyamu iyo itagwo phosphate na kwoguo tweekira fataraitha ya Double Superphosphate ...”

(... and the thing that the maize needs at the time of planting is called phosphate and therefore if we apply the fertilizer called Double Superphosphate...")

(Maize Planting, Dr. Eunice Mutitu. B 13 April 1994)

Words that are in common usage may also be borrowed as unassimilated lexical items, with context of use being a compensatory factor.

"...waweza kutoboa ear-drum."

(You could pierce the ear-drum)

(Ear Infection, Dr. Kimani Njogu. P 23 Dec.1995)

In a Kikuyu programme on Malaria (Dr. Rhoda Munene. B 24 Sept. 1994):

"gitumi ni tondu germs cia malaria ithiaga igicinjanagia na ikimenyanagira na dawa."

(the reason is that malaria germs develop immunity to some of the drugs)

Similarly, in a programme on Compost Manure (Dr. Eunice Mutitu. B 6 April, 1994) in Kikuyu:

"Ungienda guthondeka compost manure, ukunyita mahuti macio mothe..."

(If you want to prepare compost manure the first step is to gather all the dead leaves...)

Use of such lexical items instead of their local language equivalents may be compensated for in terms of context as well as introductory remarks such as:

"...guthondeka thumu wa mahuti tutari na ng'ombe, mburi kana nguku."

(...how to prepare compost manure without inputs from cattle, goats or chicken)

Generic lexical items are used together with unassimilated English specifics in the following examples:

"...ta tugunyu kana tuindo tungi tunvinyi twitagwo bacteria na fungi turiaga mimea, nitukaga na iguru..."

(...like small worms or many tiny organisms called bacteria and fungi which feed on crops, are brought to the top...)

(Maize Planting, Dr. Eunice Mutitu. B 13 April, 1994)

Here, the more generic form of 'tiny organisms' is used with the more specific English borrowings: bacteria and fungi. The necessity for exactitude with borrowed specifics becomes clear when the same generic used above (small worms) is used together with a specific designation:

"...tugunyu tuingi twitagwo nematodes."

("... many small worms called nematodes)

(Maize Planting, Dr. Eunice Mutitu. B 13 April, 1994)

2.2.2 ASSIMILATED LEXICAL ITEMS

"It is most common for items to be assimilated to the items already in the borrowing variety, with foreign sounds being replaced by native sounds." (Hudson, 1980:59)

The group of words most subject to assimilation and therefore exhibiting phonological change are those terms that are those that have wider usage outside the registers under study. Bantu languages are largely CV, and follow an open syllable structure. Assimilated borrowed words conform to this structure, and terms used in the sciences are no different, especially those that are widely used in everyday language. For example, the following changes occur in Kiswahili programmes:

protein [prəʊti:n] becomes protini

The following sound changes occur: [əʊ] changes to [o] and [i:] to [i]

vitamin [vɪtəmi:n] becomes vitamini. [ə] changes to [a]

acid [æsi:d] becomes asidi. [æ] becomes [a]

muscles [mʌslz] become misuli. [ʌ] becomes [i], and the high back vowel [u] is inserted between [s] and [l]. All these assimilated forms end in the high front vowel [i] due to vowel harmony. In the change of fertilizer [fɜ:təlaɪzɪ] to fataliza [fataleza], the final vowel is low, back in harmony with the other vowels in the structure.

Common crops are also assimilated eg. carrots [kærəʊtɪz] becomes karoti and spinach [spɪnɪdʒ], spinachi.

“...daktari anaweza kupiga picha pale tumboni...”

(... the doctor can take a picture of inside the stomach)

(Peptic Ulcers, Dr. Kimani Njogu. P 28 Dec. 1995)

and,

“ndio, picha ya kifua ni muhimu.”

(yes, a picture of the chest is important)

(Pneumonia, Dr. Kimani Njogu. P 23 Dec. 1995)

The word picha in these utterances is assimilated from English picture ~~[pɪkʃə]~~ and though not a register specific term, it represents the word X-Ray, and not picture.

Units of time and measurement are also subject to assimilation.

foot [fʊt] becomes [futi]

ton [tʌn] becomes [tani]

acre [eɪkə(r)] becomes [ekari]

gram [græm] becomes [gramu]

metre [mi:tə(r)] becomes [mita]

centimetre [sentɪmi:te(r)] becomes centimita [sentimita]

In the Kikuyu programmes, the following changes occur:

“...uria witagwo haru.”

(that one called a harrow [hæɾəʊ])

The sound [æ] becomes [a] and [əʊ] becomes [o].

ton [tʌn] becomes [tani]

acre [eɪkə(r)] becomes [ɛka]

bench [bentʃ] becomes [βenɕ]

kilo [ki:ləʊ] becomes [kiro]

spinach [spɪnɪdʒ] becomes [ɕiβinacɕi]

clinic becomes [kiriniki]

From the above examples, it is clear that even when assimilation occurs, it need not be total.

Some of the English sound sequences [pr], [gr], [sp] are retained because of the bi/

multilingualism of the script writers and readers. This leads to assimilations that are in a state of flux, even among individual speakers, as attested by the following Kikuyu variations for suckers, all used by the same speaker: [ṣaḡaḍi], [ṣaḡas] and [sakasi]. However, learners are unlikely to face problems in understanding these fluctuating forms because in these categories assimilation is largely maintained along the lines of CV, while consonantal sounds become the nearest phonological equivalent in the language being used.

Assimilation also conforms to the structure of a language at the morphological level. The word doctor is realized as daktari, from which the form udaktari is created.

“...wewe ni mwanafunzi wa udaktari.”

(You are a medical student)

(Ear Infection, Dr. Kimani Njogu. P 23 Dec. 1995)

Similarly, in a Kikuyu programme on Maize Planting (Dr. Eunice Mutitu. B 13 April, 1994)

“... no arehe murau” [morao]

(...may bring along a plough)

‘Murau’ is an assimilated borrowing from plough that conforms to the morphological requirements of Bantu Class 3 prefix ‘mu-’.

“...hybrid seed ikoragwo ithondeketwo na ki-ngirigaca.”

(...hybrid seed(s) are developed according to agricultural expertise)

(Maize Planting, Dr. Eunice Mutitu. B 13 April, 1994)

Here the prefix ‘ki-’ carries with it the meaning ‘of’ or the suffix ‘-ly’ as in the word ‘agriculturally’.

In the following instances, we see that even words that are borrowed in their unassimilated form sometimes acquire morphological affixes in the receptor language. Here, the prefix ‘ka-’ is used to show the diminutive form while ‘-tu-’ indicates plurality.

“...ni mwonaga ta kaPick-Up uguo gakuaga ta tani imwe. Riu ungikoruo urakiuga uhoru wa tuPick-Up ta ikumi na twiri kana ikumi na tutatu hari oro ika...”

(... you have seen that a Pick-Up carries up to one ton. So if you are talking of twelve or thirteen Pick-Up loads per acre...)

and,

“tunyamu twa murimu kana ‘tufungus’”

(Disease-causing organisms or fungus)

(Maize Planting, Dr. Eunice Mutitu. B 13 April 1994)

In the following examples, there is phonological assimilated borrowing of the term ‘nursery’ in Kikuyu and secondly assimilation at the morphological level using the suffix ‘-ini’ (within).

“...thi-ini wa nathari.”

(in the nursery)

“...mbegu ciaku nathari-ini...”

(...your seeds in the nursery...)

(Onions, Edward Njagi. B 15 Jan. 1995)

Technical vocabulary can be equally effective whether it comes from the language’s own processes of word formation or from extensive borrowing from another language.

In the Kamusi ya Kiswahili Sanifu (1981) and Tafsiri Sanifu 2, (1976), Kiswahili translations from English in the field of science show both instances of assimilation and calquing, though assimilation is a more common process and one that tends to occur frequently to lexical items used in everyday speech. Examples of these accepted and codified assimilated lexical items include:

degree becomes digrii

chemicals becomes kemikali

metre becomes mita

lung(s) becomes pafu (mapafu)

science becomes sayansi

tank becomes tanki

doctor becomes daktari

thermometer becomes themometa and when calqued, kipimajoto

2.3 CODE-MIXING

“Code is a term which is used instead of language, speech variety or dialect. Code mixing is the mixing of two codes or languages, usually without a change of topic...Code mixing can involve various levels of language eg. phonology, morphology, grammatical structures or lexical items. Bi or multilingual speakers may think that one of their languages eg. English has more appropriate lexical items for something they want to express in a particular situation and they incorporate these into the grammatical structures of the other languages.” (Richards, 1992: 57)

2.3.1 CODE MIXING AND TRANSLATION

In situations where vocabulary has come about due to the language's own processes, or where the term exists in the language, the tendency is to code mix through translation into the English term. The following are examples from Kiswahili programmes:

“...ana ugonjwa wa ECF au ‘ndingana’ ...humshambulia ngombe kwenye tezi zile zinazoitwa kwa Kiingereza ‘glands’.”

(... it has ECF or ndingana... it attacks the cow at the ‘tezi’ those that are called glands in English)

(East Coast Fever, Dr. Kimani Njogu. P 21 Dec. 1995)

“...kitovu au umbilical cord ni ile njia ya kumpitishia chakula kabla ndama hajazaliwa.”

(... ‘kitovu’ or umbilical cord is that pathway for passing food to the calf before it is born)

(Calf Diseases, Dr. Kimani Njogu. P 28 Dec 1995)

“...hupewa hewa iitwayo oxygen kwa mapua”

(it is given air, called oxygen, through the nostrils)

(Pneumonia, Dr. Kimani Njogu. P 23 Dec 1995)

Here the cover term hewa (air) is inexact, necessitating the code-mix with ‘oxygen’ which is more specific. Alternatively, the assimilated form, oksijeni would also have appropriately dealt with this lexical item (see 2.2.2).

The acronym AIDS finds its Kiswahili translation in UKIMWI. Both these forms are used in the radio programme, together with their full forms. Both languages are used simultaneously, creating an emphatic effect.

“...UKIMWI au AIDS...

Upungufu wa Kinga Mwilini - Acquired Immune Deficiency Syndrome.”

(AIDS, Dr. Kimani Njogu. P 21 Dec 1995)

Although names of diseases and crop varieties are commonly used as unassimilated borrowed lexical items, when the local language equivalent exists, the trend is towards code-mixing with English. The following examples are derived from Kikuyu programmes:

“...Anneti, Baika iria mwigaga Nyayo kana Roselin Eburu kana kiria njiguaga Agikuyu amwe magita Kibururu.”

(Annet, Baika, otherwise called Nyayo or Roselin Eburu which is called Kibururu by some Kikuyu people)

(Diabetes, Dr. Rhoda Munene. B 11 Jan. 1995)

Apart from code mixing, this quote shows a rather rare instance of assimilating the name of a crop variety (Annet) as well as morphological assimilation of ‘Roselin Eburu’ to Kibururu.

Further examples include:

“No nginya ugaikara ugicinjanagia mimea iria wahanda handu oro handu. Gucinjanja kuu gwigagwo Crop Rotation.”

(You must ensure you change your crops round seasonally - a practice called Crop Rotation)

(Crop Rotation, Dr. Eunice Mutitu. B 6 April, 1994)

and,

“Murimu ucio wigagwo Maize Streak Virus; na rimwe kuri hindi andu mwigaga na Gikuyu ‘Gikware’.

(This disease is called Maize Streak Virus and sometimes people call it Gikware in Kikuyu)

(Maize Diseases, Dr. Eunice Mutitu. B 20 April 1994)

The utterance preceding this encodes a description of the disease. This clarifies the disease under study on two levels: translation and a description of form. The latter is one method of elaboration (see 2.3.2) usually used when a certain lexical item does not exist in the language:

“...wona ikiambiriria kuhana yeru na ringi ikahana ta iri na mikururo imwe ya ngirini na ya yeru umenye ni murimu ucio iri naguo.”

(...when you notice some of the plants looking yellowish, or in some cases they acquire streaks of yellow interspersed with green, know for sure they have this disease)

2.3.2 CODE MIXING AND ELABORATION

When a subject-specific English word is introduced in the dialogue, elaboration is sometimes required. Translation into the nearest equivalent in the language under use is often inadequate. Elaboration involves a description and explication of the phenomenon in question. This is a way of clarifying lexical items that do not exist in the receptor language. The following sample is from a Kiswahili programme on Mastitis (Dr. Kimani Njogu. P 20 Dec. 1995):

Daktari: unaweza kutumia strip cup
(you can use a strip cup)

Esta : ati kikombe?
(a cup?)

Daktari: sio kikombe cha chai, bibiye. Kuna kikombe maalum...
(not a tea-cup, lady. There is a special cup...)

Here, lack of a lexical equivalent for the term strip cup results in use of a general term (cup) that serves to contrast what the item is not, leading to an explanation of what it is.

Similarly, if the preceding section is deemed to have explained and elaborated the meaning of the term about to be used adequately, code mixing with English register specific vocabulary occurs:

“... ukifanya hivyo utakuwa umekula kile wazungu hukiita balanced diet.”

(If you do that (preceding utterance) you will have eaten what the White people call a balanced diet)

(Malnutrition, Dr. Kimani Njogu P 23 Dec. 1995)

Meaning may be clarified as an elaboration of function as in the following sample from a Kikuyu programme on East Coast Fever (Dr. Charles Gachuri. B Jan. 1995)

“gaka ni kanyamu ga guthima urugari wa mwiri wa ng’ombe. Kana thermometer na Githungu.”

(this (small) instrument is used to record the body temperature of a cow; otherwise called a thermometer in English)

Similarly, in a Kikuyu programme on Maize Planting:

“...fataraita ingi iria itagwo top dressing. Top dressing ni fataraita iria ikiragwo ya kuongerera nitrogen)

(...another fertilizer which is called top dressing. Top dressing is a fertilizer applied to add nitrogen)

(Maize Planting. Dr. Eunice Mutitu. B 13 April, 1994)

Here, the meaning of top dressing is clarified on two levels: firstly at the generic where it is classified as a type of fertilizer and secondly by a statement of function which explains its use. This also occurs in a programme on Diabetes on the role of insulin:

“... murimu uyu ukaga ni mwiri gukorwo uteguthondeka kindu kia bata muno - nikio gitagwo insulin.”

(...this disease comes about when the body fails to make a very important substance known as insulin)

(Diabetes. Dr. Rhoda Munene. B 11 Jan. 1995)

“Because many words in any text are semantically complex, it will be expected that many times a single word will be translated by several words, that is a ‘descriptive phrase’ in the receptor language.” (Larson, 1984:155)

Many borrowed words are modified by either an elaboration of form, function or both.

2.4 CALQUES

The pattern of unassimilated borrowing is modified to some extent through calquing. There are certain lexical items which happen to have a local language equivalent in the form of a loan translation. Hudson (1980:59/60) differentiates between the completely unassimilated loan word and calques. These are loan-translations which bear no formal resemblance to the words on which they're based .

“...halafu mara ya pili waweza kutumia haroo au uma ya kulima.”

(... and then the second time you can use a harrow or hoe for digging).

(Potato Planting, Dr. Kimani Njogu. P 30 Dec. 1995)

Here, not only has loan translation been used but the sound pattern of English 'harrow' has been assimilated to that of Kiswahili (see 2.2.2).

Borrowing not only involves phonology, but the levels of syntax and semantics as well. Most frequently, loan translations are used together with their English counterparts in the radio programmes. This reduces the chances of inaccuracy or misunderstanding because the translations are merely descriptive and do not actually name the disease/item, although these names may be familiar to the listener. This is the role of English: to name the disease/item while calquing in the local language is used descriptively. In Kiswahili:

Daktari: ana pneumonia, yaani homa ya mapafu.

(he has pneumonia or disease of the lungs)

(Pneumonia, Dr. Kimani Njogu. P 23 Dec. 1995)

Similarly, in a programme on Peptic Ulcers, Dr. Kimani Njogu. P 28 Dec 1995:

Esta: ... naye atapata vidonda vya tumboni. Hivi vidonda vyaitwa peptic ulcer kwa Kizungu.

(... and he will get sores in the stomach. These sores are called peptic ulcers in English)

Examples from Kikuyu programmes include:

“Ndagitari wa ngirigaca”

Literally this means doctor of agriculture (agricultural specialist).

(Compost Manure, Dr. Eunice Mutitu. B April 1994)

and,

“Murimu wa Cukari”

Literally, disease of sugar (diabetes).

(Diabetes, Dr. Rhoda Munene. B 11 Jan 1995)

2.5 ALTERNATION

Sometimes, assimilated words alternate with their English counterparts, where one speaker opts to use the assimilated version and the other the English version. From a script reading Vitamin B1 one reader opted to use Vitamini B Moja and the other, Vitamin B One. Alternation may occur unconsciously in situations such as these in the case of bilinguals. However, message transmission is at a risk if the audience does not share one of the codes.

“Some kinds of items will be borrowed under conditions of widespread bilingualism, while others may occur where only a few members of a society are bilingual eg. a word for ‘one’ would be borrowed only when almost everybody speaks both languages, whereas aeroplane could easily be borrowed when nobody is fully proficient in the two languages.” (Hudson, 1980:60)

The more commonly used an English word, the more likely it is to be used interchangeably with its local language equivalent.

“...au unaweza kutumia manure. Manure inatakiwa utie madebe mawili. Itakuwa ni kwa kila mmea. Mbolea hii itawezesha mimea yako kukuwa vizuri.”

(... or you can use manure. Manure requires that you put two debes. This is for each plant. This manure enables the plant to grow well)

(Bananas, Dr. Kimani Njogu P 23 Dec. 1995)

This type of alternation is also evident in a programme on AIDS:

Voice: na mipira, je?

(what about condoms?)

Daktari: ndio, condom zinasaidia.

(yes, condoms help)

(AIDS, Dr. Kimani Njogu. P 21 Dec.1995)

2.6 OBSERVATIONS

Out of 39 farmers interviewed, 21 (53.8%) indicated that they don't understand English words. This suggests that seemingly 'common' English words should be avoided even if translation is used later on. Of the 18 farmers (46.2%) who responded that English words would not present any difficulty. 43.6% understand English to some degree and 2.6% felt that meaning was recoverable from context. The benefits of elaboration through code-mixing clearly emerged with an 82.7% affirmative that code-mixing with the nearest equivalent does help in understanding register-specific terminology.

CHAPTER THREE

3.0 THE PROGRAMME DEVELOPMENT PROCESS

In this chapter, we discuss the mapping strategies that have been used to develop educational radio programmes for farmers. This process involves the conversion of written scientific monologue into interactive spoken dialogue for radio. The participatory nature of the RLG communications strategy comprises a four step process:

- (i) Farmers say what they want to learn about
- (ii) This information is passed on to content specialists
- (iii) Specialists collate information from their resources and prepare simplified manuals/ notes in English, designed to be understood by the programme producer and scriptwriters
- (iv) Using this information, scriptwriters write radio scripts in local languages, which are subsequently recorded and broadcast to the target audience.

Our focus in this chapter is the transformational process between the third and fourth stages whereby written science messages are made compatible for radio, and for the audience in question. In the previous chapter, we considered lexical transformations. We now consider message transformations. Data is drawn from materials prepared for the producer by content specialists and the radio programmes that are the end product of this transformational process.

3.1 FUNCTIONALISM Vs. FORMALISM

The radio programmes are intended not only to educate, but to induce change in behaviour through adoption of taught practices. Rogers (1971:24) sees the process of adopting innovations in four stages. The first two functions are observable in the radio messages:

- (a) The **knowledge** function: this involves exposure to the innovation.
- (b) The **persuasion** function: the individual forms a favourable or unfavourable attitude towards the innovation.

- (c) The **decision** function: involvement in activities which lead to a choice of adoption or rejection.
- (d) The **confirmation** function: individual seeks reinforcement for the decision made.

Message presentation has an impact on the listener, and coupled with other factors (social, economic etc.), leads to adoption or rejection of messages. Use of an appropriate language is important, but language use is of equal importance.

The Functionalist approach supports this. It has two general assumptions:

- (a) Language has functions that are external to the linguistic system per se.
- (b) External functions influence the internal organization of the linguistic system. (Schiffrin, 1994:22)

Formalists, on the other hand, argue that the social and cognitive functions of language do not play a role in the internal organization of language. The former approach lends itself more readily to studies in discourse. The different genres: narrative, procedural, expository, hortatory (behavioural) and repartee discourse serve different functions and encode different structures.

Narrative discourse is used to **recount**. Its units consist of chronologically ordered and related past events. **Procedural** discourse **prescribes** and constitutes sequentially ordered and closely related steps. **Expository** discourse **explains** and its constituents are logically related points about a theme. **Hortatory** discourse **proposes, suggests or commands**. It consists of injunctions which encode proposed actions with supporting reasons. In repartee, the constituents are sequential exchanges, related to one another in structure. Dialogue discourse combines narrative and repartee. (Larson, 1984: 35-36)

3.2 SPEECH ACT THEORY

When John Austin wrote about the Speech Act Theory, he called the book '**How To Do Things With Words**'. Some of the key questions in this analysis are:

What are the writers/speakers doing with words?

What is the Illocutionary Force of the message?

Do message functions have a role to play in the internal organization of these messages?

“Speech Act Theory is basically concerned with what people do with language - with the functions of language. Typically, the functions focused upon are those akin to communicative intentions (the Illocutionary Force of the utterance)... Speech Act Theory offers an approach to Discourse Analysis in which what is said is chunked (or segmented into units that have communicative functions that can be identified and labelled.” (Schiffrin, 1994:90).

Although the term ‘Speech Act’ suggests the necessity of some kind of verbal behaviour, the ideas behind the theory are applicable to both written monologue and spoken dialogue.

“The writer produces discourse through covert interaction whereby he anticipates the likely reaction of the imagined reader, and negotiates with him as it were by proxy by the vicarious assumptions of the second person role.” (Widdowson, 1984:88).

The trend that writing takes indicates an anticipated response to what one has already written. The coherence of a passage can be viewed as a result of an underlying interaction based on anticipated comments or questions (how, why etc.) by the writer. The ‘dialogue’ is covert. It is more of an invisible interaction than that of spoken dialogue.

Widdowson (1984:49) proposes two types of acts that a writer performs and these parallel the notions locutionary and illocutionary acts respectively. They are:

(a) **Focal Acts**

These represent the purpose of the write up. They express the facts, ideas and views that the writer wishes to convey.

(b) **Enabling Acts**

These facilitate the conveyance by anticipating reactions from prospective readers, which might interfere with the transmission of the message.

In order for effective communication to occur, there has to be some correspondence between the intention of the writer and the interpretation of the reader. The development of these educational programmes involves the transfer of scientific knowledge to (educated) non scientists through shared linguistic rules in the form of technical manuals and notes. As a written record, based on farmer-selected topics, it provides only the result of a covert interaction between writer and eventual reader. The script writer interacts with this content and the effect of its illocutionary forces on him/her to relay this material in a format suitable for radio, and in a form that will lead to the desired perlocutionary effects on the listeners (farmers).

“Language works in two ways. On the one hand, it provides for conceptual activity whereby clear and processible propositions are formulated in the mind. On the other hand, it provides the means whereby such propositions can be conveyed in the most effective manner for particular communicative purposes.” (Widdowson, 1984:74).

Therefore, if the scientific materials largely consist of concepts, it is the task of the radio script writers to express these propositions so that they will be understood and acted upon by the programme recipients.

Harre, (Nash:1990) discusses what speech acts scientific utterances are typically used to perform. Functionally, the disinterested voice and assertoric style seem to be aimed at getting the interlocutor to see things from the point of view of the writer/speaker. The utterances are presented as knowledge. Harre proposes that the IF of a scientific utterance is ‘trust me.’

Reformulation of concepts in the radio programmes is an important aspect of materials development. Although they are aimed at getting people to change their behaviour in the desired direction, sometimes effective presentation means disguising the underlying motive in order to make the message more palatable to the listener. At other times, though, direct exhortation has to be used.

“In so far as people do not like to be urged to change their conduct, presenting hortatory discourse as a narrative or a drama may make it easier for them to accept. Likewise, expository material may be livened up by being cast into a narrative or dramatic form.” (Longacre, 1983:12).

In the previous chapter, we saw that there is a great reduction and simplification of technical vocabulary between the written and the spoken forms. This is because of factors such as: audience characteristics, limitations of time and nature of the medium. Similarly, differences in the information load between written and spoken discourse is governed by factors such as these. Technical materials usually have a higher information load than other written genres, but there is reduction when they're converted into radio programmes.

3.3 PROCEDURAL DISCOURSE

Notes on Carrots prepared by Dr. E.W. Mutilu of the Department of Crop Science, University of Nairobi are encoded as procedural discourse. They are divided into the following sub-topics: Land Preparation, Planting, Thinning and Weeding. Procedural discourse is prescriptive and characterized by sequentially ordered and related steps. For example, the section on Land Preparation consists of four numbered points:

1. Clear land of any vegetation or remains of previous season.
2. Deep ploughing to loosen the soil properly is essential.
3. Before planting, the seedbed should be properly harrowed and prepared into a fine seedbed. If farmyard manure is available, it should be thoroughly mixed with the soil to avoid forking.
4. Fertilizer - Diamonium Phosphate at the rate of 200 kg/ha. should be mixed with the soil. The seedbed should be fine, clean and level.

These points serve the transactional function of language in that they are used to pass content on to the potential user. Relations between communication units may be either addition or support. These are the semantic equivalents of co-ordinate or subordinate relations in

grammar. Both these types of relations may be encoded either chronologically or non-chronologically (Larson 1984:276). In addition relations, the two propositions are of equal prominence, but in support relations, one is less prominent than the other.

Our sample is chronological and encodes the addition relation of sequentiality because events follow one another in time and none is more prominent than the other. The language is instructional. Verbs of action include clear land, deep plough(ing), harrow(ed), decompose(d), mix(ed). The process of land preparation for carrots is also expressed through use of enabling acts. Points 2 and 3 answer the question 'why?'

2. Deep ploughing.

Why?

To loosen the soil properly

3. If farmyard manure is available it should be thoroughly mixed with the soil.

Why?

To avoid forking.

These acts are used for justification.

In the Kiswahili radio programme on carrots, the information is encoded in dialogue:

Paulo: ...ukipanda sasa hivi kama shamba lako ilivyo, huenda karoti zako ziwe fupi sana. (RU-Ev: (Assertive) Resolves previous remark.)

(If you plant right now, with your garden like this, your carrots are likely to be very small)

Esta: Nataka karoti ndefu. Hizo ndizo zenye bei. (IU-Pro: Expressive)

(I want long carrots. Those are the ones that fetch money)

Paulo: Basi tayarisha shamba lako vizuri. Ukipanda katika shamba la aina hii, karoti zako zitakuwa fupi, zitakuwa na umbo mbaya ajabu, na huenda ukapata karoti nyembamba zilizoshikana. (RU-Res: (Directive) Resolves

IU-Pro)

(Then prepare your garden properly. If you plant in this type of a garden, your carrots will be short, of very bad appearance, and you are likely to get thin carrots that are joined together)

Esta: Kama mapacha wasiotengana? (IU-Pro:Interrogative)

(Like Siamese twins?)

Paulo: Ndio, kama mapacha wasiotengana...na isitoshe, Esta, unaweza ata kupata karoti zenye mizizi mingi... (RU- Res:(Assertive) Resolves IU-Pro)

(Yes, like Siamese twins... and as if that is not enough, Esta, you may get carrots with many roots...)

Esta: Mimi nataka karoti kubwa, ndefu, zenye rangi nzuri...nataka karoti... sio vijikaroti. (IU-Pro: Expressive)

(I want big carrots, long ones, with good colour... I want carrots, not small carrots)

Paulo: ... mchanga uwe mwororo tena mwingi iwezekanavyo ili karoti zako zikuwe zikienda chini (RU-Res:(Directive) Resolves IU-Pro)

(... soil should be fine and plentiful so your carrots can penetrate downwards)

Esta: Yaani ziweze kupenya mchanga kwa urahisi. Bila pingamizi, sio? (IU-Rem: Assertive)

(So that they can penetrate the soil easily, without any obstacle, isn't that right?)

Apart from the conversion of monologue to dialogue, the development of the radio programme from the notes shows several significant changes. The notes are couched in neutral, passive language, geared towards describing a certain process. Use of qualifiers are mainly adverbial, describing the intensity or type of an action:

thoroughly mixed

completely decomposed

properly harrowed

Adjectivals are found in the description of the seedbed: **fine, clean and level.**

The radio programme, on the other hand, avoids neutrality by being highly descriptive. It aims at promoting good farm practices (in this case, land preparation for a better carrot yield). Adjectives are used to juxtapose poor and good quality carrots:

- karoti - **fupi... umbo mbaya** ajabu... **nyembamba** zilizoshikana... vijikaroti.
(short...bad appearance...thin, joined together...small carrot)
- karoti - **kubwa, ndefu**, zenye rangi **nzuri**...
(big, long, with good colour...)

Use of such descriptive qualifiers creates mental images, and coupled with paralinguistic features (see Chapter 4) encode greater convincing power than a flat description of the laid down procedures. The dialogue is also brought to life by the illocutionary forces encoded within it. These are designed to have some Perlocutionary Effect on the listener if and when they should decide to plant carrots.

3.3.1 DIALOGUE STRUCTURE AND ILLOCUTIONARY FORCE

Utterances can be classified and where applicable, illocutionary forces ascribed to them as follows:

RU-Ev: Assertive (Statement of fact)

IU-Pro: Expressive (I wish for)

RU-Res: Directive (Advising)

IU-Pro: Interrogative

RU-Res: Assertive (Statement of fact)

IU-Pro: Expressive (I wish for)

RU-Res: Directive (Advising)

IU-Rem: Expressive (Agreement)

The first assertive commits the speaker to the truth that an ill prepared garden will give a poor yield. This is followed up by advice on land preparation. The second assertive is also a truism, couched as a warning, followed by advice on what to do so as not to get forked carrots. The interlocutor is seen to be in agreement with these statements. This type of structure supports Harre (1990) and Rogers (1971) respectively in that:

- (a) Science seems to be assertoric, saying 'trust me'.
- (b) Adoption of innovations requires a persuasion function. Thus, statements of fact are backed by advice and juxtaposition through adjectival comparison.

Although the procedural instructions for planting carrots are retained, they are recrafted in speech to remove the neutrality of the impersonal passive voice. This is more clearly observed in a programme on amaranthus.

3.3.2 PERSONAL Vs. IMPERSONAL LANGUAGE

The notes on amaranthus (terere) have a section on fertilizer and manure couched instructionally and procedurally. Events occur chronologically (+ CL) and interconnectedness of ideas is attained through adverbials such as 'also' and 'thereafter'. The element 'agent' is absent:

- apply about a half a debe of fresh household waste or compost to a square metre of the field prior to planting.
- **also** fertilize the field before planting with nitrogen, phosphorous and potassium at the rate of 300, 100 and 200 kg/ha. respectively. Mix the fertilizer well with the soil.
- **thereafter**, apply surface dressing of nitrogenous fertilizers. This is particularly important during the period of active growth.

The units are in support relation to one another in terms of progression. Progression, like sequentiality, involves events following one another in time. However, in progression relations, some events are more prominent than others and it often consists of a series of steps leading towards a goal.

In the radio programme, however, these concepts are expressed in a more personal manner. Although still encoded chronologically and instructionally, use of dialogue facilitates foregrounding the element of 'agent' or doer. The programme is a dramatic dialogue, set at an agricultural meeting with an agricultural officer (AO) in charge. In a conversation with one of the members of his audience, he responds to a question on how to grow amaranthus as follows:

AO: ... lakini kabla ya kupanda, ni lazima ulitayarishe shamba lako vizuri. Ilime mara ya kwanza, huku ukitoa uchafu wote...halafu ulime mara ya pili. **Waweza** kutumia fertilizer ya NPK...**Waweza** kuweka fertiliza ingine ya CAN. CAN husidia ili matawi **yako** yawe mengi na hivyo mavuno **yako** kuwa mazuri.
 (... but before planting, **you** must prepare your garden properly. Dig the first time, while removing all the trash... then dig the second time... **you** can use NPK fertilizer... **you** can use another fertilizer called CAN which helps ensure **your** leaves are plentiful and that **your** harvest will be good)
 (Amaranthus. Dr. Kimani Njogu. P 23 Jan, 1996)

Unlike in the written notes, the notion 'agent' clearly plays a major role in advancing the argument, making this procedural discourse differ from its monologic counterpart in that its orientation is +PR. The speaker includes his interlocutor (and his audience) in the events being explained. The events are therefore seen as being contingent upon human action by use of the second person pronoun 'you'.

Span refers to the continuation of a given participant, setting or event through a part of the text (Larson, 1984:390). It is a cohesive element of discourse. In the above sample, cohesion is based on both the second person agent participant that runs throughout the discourse as well as the series of events that it encodes.

Although the second person voice adds a personal element to the discourse, the first and third person voices are also adequate in providing the +AO orientation. The following monologal exposition in Kikuyu encodes the third person voice:

“acokaga agekira thumu na agacoka agekira fataraitha angikoruo ari nayo.”
 ((the farmer) puts manure and he adds fertilizer if he has it)
 (Maize Planting. Dr. Eunice Mutitu. B 13 April.1994)

3.4 HORTATORY DISCOURSE

Many of the programmes on human health require that people change their attitudes, beliefs and actions. Thus, as well as being informative they are classified as behavioral or hortatory discourse. This series was scripted directly by a medical doctor in Kikuyu. These scripts, together with supplementary materials were used to develop the Kiswahili series. We have generalized that written medical manuals, like the agricultural notes in the previous section would also be assertoric and factual. Mere description can however be encoded very convincingly on radio programmes that hope to create some change in behaviour.

3.4.1 EXPRESSIVES

Anna: Ukimwi ni ugonjwa kifagio - unafagia yeyote - mtoto kwa mkubwa - tajiri kwa maskini - ni laana, daktari - ni laana. Tafuteni dawa - watu wafa - kila siku tunazika - Ah! (**Expressive**)

(AIDS is a disease that sweeps - it sweeps away anybody - child or adult - rich or poor - it's a curse. Look for a cure - people are dying - every day, we are burying. Ah!

(AIDS, Dr. Kimani Njogu. P 21 Dec. 1995)

This emotional description, rendered in a fearful tone, transcends any statistical analysis or description of the disease in a scientific document. The setting is at a meeting with a visiting doctor teaching about AIDS. Expressives show the speaker's psychological attitude towards a state of affairs. The speaker's fear and despair are brought out by her description of the disease: it sweeps away anybody, it is a curse. Use of figurative language and paralinguistic features (See 4.1 and 4.2) also add impact to the message.

Because adoption of new ideas involves a persuasion function, dramatic dialogue on radio provides the flexibility of creating different scenes: some geared towards the knowledge function and others towards persuasion. Drama creates vividness in an unfolding story. This is the structure of the programme on Bananas (Dr. Kimani Njogu. P 23 Dec. 1995).

The first section encodes a dialogue between two friends and is geared towards praising the qualities of bananas thereby persuading the farmer that it is a worthwhile crop to plant. After this, the knowledge function (how to) is addressed.

“... hupatikana kwa urahisi masokoni - hutumiwa kama matunda - waweza pia kuzichemsha na kuzipondaponda - chakula cha matoke kinashibisha vizuri.” (**Expressive: Praising**)

(... it is available in the market - it can be used as a fruit - you can also boil and mash bananas - matoke is very satisfying)

These comments are made in order to convince her interlocutor on the positive aspects of bananas.

The section on banana planting reads:

1. Organic manure - 2 debes/hole (30 kg.) should be placed in each hole and mixed with top soil.
2. Fertilizer - Double Superphosphate at the rate of 100-150 gm. per hole should be added and mixed.
3. Suckers should then be planted in each hole 30 cm. deep.

In the programme:

“...mbolea hii itaiwezesha mimea yako kukua vizuri - mchanga huu mwororo utawezesha mimea yako kukua kwa urahisi...”

(... this manure will enable your crop to grow well - this fine soil will enable your crop to grow easily)

Then the expected benefits are laid out:

“... kumbuka pia ubora wa mimea wa ndizi ni kwamba unaweza kuendelea kukua kwenye kipindi cha kiangazi...jambo lingine nzuri ni kwamba mmea huu waweza kutumiwa kama chakula cha mifugo ukishaondoa zao lako.” (**Expressive: Praising**)

(...remember also that bananas are beneficial because they can continue growing in dry periods... another good thing is that after harvesting your crop, this plant can be used as animal feed)

Use of Expressives helps bring out the positive aspects of the subject being taught. The following statements are derived from Kikuyu programmes on Cow Management (Dr. Charles Gachuri. B 29 March 1995) and Neem Tree (Edward Njagi. B 8 March, 1995) respectively make qualitative judgements:

“ngombe ya ngirindi ni njega tondu niirutaga iria riingi kuri ya kiyenyeji.” (**Expressive: Praising**)

(A grade (hybrid) cow is preferable because it produces more milk than the native cow)
and,

“Uyu ni muti wa bata muno muno” (**Expressive: Praising**)

(This is a very, very beneficial tree)

3.4.2 COMMISSIVES

These commit the speaker to some future action. Once the interlocutor on radio has been convinced to follow the taught practices. Use of commissives, like expressives, can be viewed as having a persuasive effect on the audience and thereby playing a role in message adoption.

“Watu wa Tamanika watanitambua. Nitakuwa hodari katika upandaji karoti.”

(**Commissive: Vowing**)

(People of Tamanika will know of me. I will become skilled at carrot farming)

(Carrots, Dr. Kimani Njogu. n.d)

Similarly, in a Kikuyu programme on Tomato Planting (Dr. Rhoda Munene B 27 July, 1994):

“Kimera giiki no muhaka haririe mugunda wakwa wa kuhanda nyanya wega.”

(**Commissive: Promising**)

(I must really endeavour to prepare my garden for proper tomato planting this season)

3.5 MONOLOGUE IN DIALOGUE

As mentioned earlier, drama creates vividness. The information is relayed in the form of a story consisting of dialogue. Information is built into that dialogue. This being the case, information encoded in this format can be said to serve both the knowledge and the persuasion function because of the illocutionary acts encoded within the dialogue. However, the written heritage of radio can be observed in the discrepancies between radio dialogue and real conversation. Like written works, there is a degree of condensation of information in which we find monologue encoded within dialogue.

Radio makes use of both the monologue of the written word and the dialogue of speech for explication. Whereas the writer has to use enabling acts to clarify issues, the radio script-writer creates actual interlocutors to tackle anticipated questions. Notes on Mastitis, a disease that affects cattle by Dr. Charles Gachuri, Dept. of Animal Production, University of Nairobi, are written under various sub-topics: Causes, Transmission, Signs, Specific types of Mastitis, Diagnosis, Treatment and Control. The information is expository, -CL and -AO. The autonomous/independent nature of each sub-topic in the written materials does not confine the radio programme to the same style of presentation. Radio benefits from its dual heritage by being enabled to present detailed, condensed ideas derived from written works in speech. In naturally occurring conversation, it takes time to develop ideas. Strategies such as repetition, rhetorical questions and paralinguistic features are then used to align subject matter with the spoken medium. These are strategies which will be discussed in Chapter Four.

The Kiswahili programme on Mastitis is an example of how a series of condensed ideas under the various topics listed above have been presented monologically within dialogue.

Daktari: Kama huyu ng'ombe titi likiwa gonjwa halafu liwe na uzito wa maziwa, basi ukiliguza tu huyu ng'ombe atageuka simba mara, kwa ajili ya uchungu. Mwashe matiti na maji yenye joto kadiri na dawa. Mpanguze kwa kitambaa kisafi. Mpake mafuta ya kukama ili usije ukamuumiza. Unapokama, kamua wala usichune wala kuvuta. Kama maziwa yote. Ukimaliza, tumbukiza matiti ndani ya mchanganyiko ya dawa."

(If that cow's teats are sick and heavy with milk, it will turn into a lion because of pain when you touch it. Wash the teats with warm water and medicine. Wipe with a clean cloth. Apply oil when milking to avoid hurting the cow. When milking, squeeze, but do not pinch or pull. Remove all the milk then put the teats in a mixture of medicine)

(Mastitis, Dr. Kimani Njogu. P 20 Dec. 1995)

Seven ideas have been encoded in this bit of procedural discourse through a series of directives by the doctor. The sporadic nature of speech is absent and there is no interruption from the interlocutors, neither are given turn-taking cues. This makes it a stretch of monologue encoded within dialogue in which the doctor instructs his listeners on the proper procedure for milking a mastitis infected cow. Instead of presenting each point through a dialogue, the entire process is explained in brief, instructional sentences through use of monologue. The monologue provides an overview of the procedure, and through it, questions from interlocutors are generated later on.

3.5.1 ASSERTIVES

Where these occur, there is little or no skewing between the illocutionary acts encoded in writing and in speech. This is because the knowledge function is taken as paramount, and explanations remain chunked together, usually encoded as assertives. The following is a monologal extract from a programme on Calf Weaning (Dr. Kimani Njogu. P 29 Dec. 1995):

Musa: Hakuna njia maalum ya kutambua ya kwamba ndama wako yuko tayari kula vyakula vigumu; kila ndama ana wakati wake ulio sawa naye. Sio lazima wakati hio ilingane na ule wa ndama mwingine. Unaweza kujua ndama yuko tayari ikiwa:

Moja: ndama ameongezeka uzito hadi akawa kama mara mbili hivi ya uzito wake alipozaliwa. (Assertive: Stating)

Jambo la pili: ndama huyo anaweza kula kilo moja hadi mbili hivi za vyakula vya aina nyingine na jambo la tatu: Ndama huyo ametimiza umri wa kama miezi kumi na tatu hivi. (**Assertive: Stating**)

Wakati huu kwa ujumla hutegemea hali uliomweka ndama wako. Nafikiri wajua ya kwamba huwezi kumwondoa kwa mamake wakati yu mgonjwa? Kumbuka kuendelea kumlisha ndama huyo chakula kile kile ulichomzoesha, angaa kwa wiki chacha zifuatazo. (**Assertive: Advising**)

(There is no special way of telling that your calf is ready to eat hard foods. Each calf has its own suitable time that will not necessarily be the same as that of another calf. You can tell your calf is ready if: one: the calf gains weight up to twice its weight at birth, two: the calf can eat one to two kilos of other types of food and three: the calf has attained around thirteen months. In general, weaning depends on how you've kept your calf. I think you know that you can't separate a calf from its mother when it is sick? Remember to go on feeding that calf the same food it has become used to for the next few weeks)

This stretch of monologue is encoded within dialogue, showing condensation of ideas that is not common in conversation but is more characteristic of writing. Also, like the scientific document, the language used is assertive. The notes on Calf Weaning by Dr. C.K.Gachuri, Department of Animal Production, that correspond to this section read:

Time of weaning will depend on:

- when the calf attains twice its birth weight
- can consume 1-2 Kgs. of dry food
- age (approx. 13 weeks)
- condition of calf.

• (**Assertives: Stating**)

Although Assertives commit the speaker to the truth of an expressed proposition, they can be reinforced by statements such as 'that is true' as in the following conversational sample from a Kikuyu programme on Malnutrition (Dr. Rhoda Munene. B 23 Nov. 1994):

“...no ciana itiendete matumbi, wee, uria ciendete mugate.”

(Children far prefer eggs to bread)

(IU:Rem (Assertive:Stating))

“Hau ni ma! No twerirwo ati mugate nduri irio cia gwaka mwiri.”

(That’s true! But we were told that bread has no body building nutrients)

(RU:Ev (Assertive:Stating))

In a programme on Maize Planting (Dr. Eunice Mutitu. B 13 April, 1994), an invited speaker is asked what yield farmers may expect should they follow the laid down procedures. The speaker asserts that:

“Hari oro iika mbembe murimi niagiriwo nikugetha tani ta ithatu hari oro ika.”

(A farmer should expect a yield of approximately three tons per acre)

Assertives, as we saw at the outset, function as truisms which are common in scientific discourse which says ‘trust me’.

3.6 EXPOSITORY DISCOURSE

Expository discourse explains a theme through logically related points. In notes on ‘Common Disease affecting Cattle in the Project Area’ by Dr. Gachui, several diseases have been discussed. In this section, we focus on East Coast Fever, another one of the two from which programmes have been developed.

The written material on East Coast Fever is subdivided into chunks of information under different subheadings: Causes, Transmission, Epidemiology, Signs, Diagnosis, Treatment and Control. The final result of these chunks of material is a chronologically accurate description of East Coast Fever, ranging from causes to control measures. However the material is negative both in terms of Chronological Linkage and Participant Reference. There is no linkage between the various subtopics as each is treated autonomously and not in relation to each other.

3.6.1 LOGICAL RELATIONS

The overall effect of cohesion is achieved by setting out topics in their logical sequence, such that even if their interconnectedness is not linguistically overt, the impression of a cohesive whole is retained. For example, the section on Treatment does not come before Diagnosis, although they are explained independently of each other. The logical order of diagnosis - treatment is retained. Logical relations are non-chronological support relations in which there is always the notion of cause - EFFECT (Larson, 1984: 356). These may be of several types. The following sentences constitute the topic sentence of each sub-topic:

(a) Cause

The cause of ECF is a protozoan organism known as Theileria parva

- RESULT - East Coast Fever
- Reason - a protozoan organism known as Theileria parva

(b) Transmission

The natural transmission of ECF is through the bite of a tick, Rhipicephalus appendiculatus, whose predilection site is the ear.

- Means - bite of a tick...ear
- RESULT - transmission of ECF

(c) Epidemiology

R. appendiculatus, the chief vector, requires a warm and relatively humid and bushy grass country for its development and occurs in areas with an annual rainfall above 15 inches.

- condition - warm and relatively humid and bushy grass country with an annual rainfall above 15 inches
- CONSEQUENCE - development of R. appendiculatus

This sub-topic differs from the others in that there are no further sentences to elaborate upon the topic sentence. However, within the sentence there is an addition relation through conjoining with 'and'. Conjoining occurs when two notions are in parallel relation to one another but they are not chronologically related.

(d) Signs

Epidemiology is followed by 'Signs,' a section which does not conform to the pattern under discussion because it is presented as a series of nine autonomous points. Four of the nine points contain parentheses:

- swelling of the lymph nodes (usually the parotid swells first)
- sharp rise in body temperature (to about 40° C)
- opacity of cornea may occur (the eyes become cloudy)
- death occurs from asphyxia (lack of oxygen due to the lungs being filled with water) accompanied by froth from nostrils.

The brackets in the first two points are used to add details, while in the last two points they are used for explication and defining the terms opacity and asphyxia respectively. This section can be viewed in its entirety as being in a grounds - CONCLUSION relation to the disease.

Grounds	-	signs
CONCLUSION	-	East Coast Fever

(e) Diagnosis

The clinical signs of high fever, enlarged lymph nodes and difficult breathing makes one suspect East Coast Fever.

Grounds	-	high fever, enlarged lymph nodes and difficult breathing
CONCLUSION	-	East Coast Fever

(f) Treatment

Currently, there are three drugs in the market for the treatment of East Coast Fever.

means	-	drugs in the market
RESULT	-	Treatment of East Coast Fever

(g) Control

East Coast Fever is controlled by controlling the transmitting tick.

RESULT	-	control of East Coast Fever
Reason	-	control of the transmitting tick

“In expository discourse, coherence is based on the theme span, and the overlap of semantic domain of concepts and their relation to the theme... the logical relationships between the propositional clusters also adds cohesion to any unit.” (Larson, 1984:393)

In the radio programme, there is a slight variation in presentation of these concepts. They have been recrafted to fit into dialogue, but presentation is not significantly different in the sense that those concepts which logically follow one another still maintain their sequentiality. The order is as follows: Causes, Signs, Diagnosis, Treatment, Transmission, Epidemiology, Control. The various sub-topics are foregrounded through a series of questions:

Esta: Huo ni ugonjwa gani, daktari? (IU-Q: Interrogative)
(Which disease is that, doctor?)

Daktari: Ugonjwa huu huletwa na kupe na kumshambulia ng'ombe kwenye tezi ama tunavyoziita kwa Kiingereza glands. Tezi hizi hupatikana kwenye shina la miguu, shingoni na nyuma ya maskio (RU-A: Assertive-Stating)
(This disease is brought by ticks and attacks the glands. These glands are found at the base of the leg, the neck and the back of the ears)

Esta: Na je daktari, dalili zake ni zipi? (IU-Q: Interrogative)
(And, Doctor, what are the symptoms?)

Daktari: Dalili zake ni kadha wa kadha. Zenyewe ni kama zifuatazo... (RU-A: Assertive-Explaining)
(There are several symptoms, which are as follows)

Esta: Ugonjwa huu hutibiwaje? (IU-Q: Interrogative)
(How is this disease treated?)

Daktari: Hapo zamani hapakuwa na tiba, lakini sasa tiba liko. Dawa zenyewe ni za pesa nyingi lakini ng'ombe atapona. (RU-A: Assertive-Stating)
(Long time ago, there was no cure, but now there is. The medicines themselves are expensive but the cow will get well)

Esta: Dawa hizo hupatikana wapi na ninaweza kuzitumia vipi? (IU-Q: Interrogative)
(Where are these medicines found, and how can I use them?)

Musa: Dawa hizi zanunuliwa kwenye duka... (RU-A: Assertive-Stating)

Though much of the information is brought out through this direct question - answer format, this is not always the case:

Esta: Mimi sielewi, daktari. Mimi huwapeleka ng'ombe wangu kwenye josho kila wakati. (IU-Pro: Assertive- Stating)

(I don't understand, doctor. I always take my cattle to the dip)

Daktari: Kama mara ngapi, hivi? (IU- $\bar{Q}$: Interrogative)

(Approximately how many times?)

Esta: Mara mbili kwa mwezi hivi. (RU-A: Assertive-Stating)

(Approximately two times a month)

Daktari: Ni lazima umpeleke mara moja kila wiki... (TU-Rej: Directive-Advising)

(You must take it once a week)

(East Coast Fever, Dr. Kimani Njogu. P 21 Dec. 1995)

This section of the dialogue is more complex because the IU-Pro does not meet with a RU-Res, but with a counter question ($\bar{Q}$) from the doctor. This aspect of disease control is therefore brought out by highlighting what should not be done through a TU-Rej rather than what should be done as in the case of the preceding RU-A sequences. It is used as a directive.

3.6.2 DIRECTIVES

Directives are intended to produce some effect on the hearer. In dialogue, this is encoded in the conversation between interlocutors. In this particular case, the Doctor's words are advisory:

Daktari: Ni lazima umpeleke mara moja kila wiki bila kuchelewa, kwa kuosha ngozi ya ngombe mara moja kwa wiki, kupe wote huangamizwa kwani ile dawa hudumu ngozini kwa siku saba kabla haijaisha nguvu.

(It is necessary to take it (cow) once a week without delay. In so doing, all ticks will be finished off because the medicine adheres to the skin for seven days before losing its strength)

The next utterance is a warning:

“Ukichelewa kumpiga dawa basi kupe wataweza kujishikilia kwenye ngozi kwani ngozi haina dawa.”

(If you delay spraying (the cow), ticks will get a chance to adhere to the skin)

Expository discourse can be presented using directives. Although expository discourse is -CL, -AO, the use of dialogue and the second person introduces the element of +AO on radio. In this, the effect is the same as that achieved by recrafting procedural discourse as dialogue and encoding the utterances as directives (Ref. 3.3.1)

Further examples include:

Afisa Wa Kilimo: Ikiwa utapanda Ruiru Eleven, inafaa utenganishe mimea yako kwa kipimo cha mita mbili kila upande au kipimo cha mita mbili kwa mita moja na nusu ikiwa shamba lako liko kwenye mteremko kiasi. (RU-Res (Directive: Advising))

(If you are going to plant Ruiru Eleven, it is advisable to leave a spacing of two metres on either side or two metres by one point five if your garden slopes gently)

(Coffee: Dr. Kimani Njogu P 6 Jan. 1996)

So far, we have discussed the different presentations of messages in dialogue. Not all the programmes are recrafted as conversational dialogue. Some of them remain wholly monologal, even after transformation into radio format. Nevertheless, message presentation does not remain parallel to the monologal scientific works.

3.7 MONOLOGUE

The Kikuyu programme on *amaranthus* is entirely monologal. Although two speakers are involved, there is no dialogue structure as in the previous examples we have been looking at. The turn taking follows presentation on the radio script where ideas are paragraphed. The change of speakers is not modelled on conversation. The notes on *amaranthus* are expository with sections of procedural discourse:

Amaranthus grow on many types of soil provided there is full sunlight. (However, they are most productive on soils which are rich in organic matter)... (These seeds are very small in size) and therefore the method that is most frequently used in seed planting is broadcasting.

The first bracketed section is in support relation to the previous sentence. It encodes a clarification relation. Clarification relations are support units which clarify by explaining further or restating. The second bracketed section is in logical support relation to the conjoined clause that it precedes:

RESULT - the method most frequently used in seed planting is broadcasting

Reason - the seeds are very small

In the radio monologue, the messages are not only brought out through exposition but also through the IF's encoded within the exposition:

“Nyeni cia terere iri bata muno na murimi o wothe niagiriirwo gucikuria tondu terere ni mumea ukuraga tiri-ini wa mithemba miingi. Undu ungi ni ati terere nduthinagio muno ni mirimu kana tugunyu ta mboga iria ingi.” (**Expressive: Praising**)

(Amaranthus is a very nutritious vegetable and every farmer should strive to grow it, especially as it can grow in many soil types. Moreover, amaranthus is not as prone to pests and diseases as other vegetables)

(Amaranthus, Edward Njagi. B 21 Dec. 1994)

In this case, the exposition, like the hortatory discourse discussed earlier, encodes the expressive use of language. The following is a sample from a Kikuyu programme in which an invited speaker explains how to plant maize. The processes are encoded as directives:

“Murimi agiriirwo ni guuka aragariitie tiri ucio agicimburagia akiaraganagia tiri ni getha riria arigitua kuhanda.”

(The farmer should then turn over the soil a final time, then level the ground thoroughly prior to planting)

(Maize Planting, Dr. Eunice Mutitu. B 13 April, 1994)

3.7.1 VOCATIVES

The use of the vocative phrase ‘murimi o wothe’ (every farmer) in the previous extract makes a personal appeal by focusing attention on this particular group of individuals.

Vocative words or phrases are used as a form of direct address to a person or group of people. They may be personal names, titles or kinship terms (Larson, 1984:340). These are commonly found in programme introductions:

In Kiswahili, “Hamjambo, wasikilizaji” (How are you, listeners?)

and, “Muri ega arimi” (How are you, farmers?) in Kikuyu.

However, the term ‘farmers’ has a more specific bearing to the group of learners than the term ‘listeners’.

3.8 NARRATIVE

Written scientific materials consist of decontextualized problems and their solutions, but because the radio programmes are prepared for a known audience there is often an attempt at contextualizing the problem by creating situations that could possibly occur to a farmer. This calls for a problem-solution format using credible characters to present the message.

In some programmes, this has involved use of narrative within the dialogue. Here we take narrative to be the recounting of some past event. In a programme on Cassava, Anna and Paulo, two ‘farmers’ are in dialogue when the subject of Paul’s trip to the city comes up, and he narrates what they saw.

Anna: Haikosi watoto walifurhia sana hiyo safari.

(No doubt the children enjoyed that trip)

Paul: Walifurahia ajabu, walijionea motokaa nyingi na mpya, majumba marefu na hata watu wengi ajabu. Kitu cha kushangaza zaidi tulichoona ni vijana barubaru, yaani wadogo wadogo waliokuwa wakichoma na kuuza vyakula vya kienyeji: mihogo, viazi vitamu, nduma na hata zile zingine.

(They were very happy indeed. They saw many new cars and tall buildings. The thing that amazed them even more was the sight of young boys roasting and selling traditional crops: cassava, sweet potatoes, arrowroots and others)

(Cassava, Dr. Kimani Njogu. P 5 Jan 1996)

This sets the scene for the theme of the programme which is promoting growth and consumption of traditional crops, in this particular case, cassava. Whereas narrative may not be used in the explanation of actual procedures and methods, it is a useful scene setter. As such it serves an expressive function by making known to the listener the speaker's attitude towards a certain situation. Though the underlying reason may be to get people to change their attitudes, this message is subtly put, corresponding with Longacre's (1983:12) impression that hortatory discourse need not be direct. Here language functions more as expressives than directives.

Anna: Vyakula vingine kama vile mihogo na viazi vitamu huweza kustahimili vipindi vya ukame. (**Expressive: Praising**)

(Crops such as cassava and sweet potatoes can withstand periods of dryness)

Narrative has also been used in anecdotal programmes, whereby the narrator narrates the information gathered from on-farm interviews. The following are samples from a Kikuyu programme on Tomato Planting made from an interview with a farmer from Embu:

"...naguo thumu wa guita mugunda wa kuhanda nyanya Grace akoragwo auhariire o kabere ni getha ugakoragwo uri muhiu biu."

(Grace ensures she has manure ready well ahead of the actual planting of tomatoes so that it is handy as plant food)

The next example shows the expressive use of language in a piece of hortatory discourse whereby the farmer and her husband, who were jointly interviewed, are described as 'graduates' of agriculture. The audience is urged to follow their footsteps.

"Kwoguo turamerire ati o ni graduate cia ngirigaca na no twende ithuothe tutike graduate cia ngirigaca ni gutumira uugi wa kingirigaca."

(Like the couple we described as graduates of agriculture, we too should strive to become graduates by putting into full use the agricultural knowledge we have acquired)

3.9 OBSERVATIONS

Out of the 39 farmers interviewed, there was no significant difference in numbers between those who preferred messages that addressed them in the second person voice vis a vis the third person voice. Of the 46.2% who responded that they preferred the second person voice, the reason centred upon the fact that they felt it addressed them personally. Of the 41.% who preferred the third person voice, the central reason for this preference was that they tended to see themselves as part of a wider group to whom the programmes were being projected, and not as individuals. 12.8% did not state any preference. There was unanimous agreement that a persuasive radio message encouraged adoption of new practices, while only 59% felt that a completely factual programme would still encourage them to adopt a new practice. Thus, the illocutionary forces encoded within messages have an impact on the listener's behaviour.

CHAPTER FOUR

4.0 INVOLVEMENT STRATEGIES

This chapter discusses involvement strategies as techniques that unite the sender and receiver in the communicative act.

“By doing some of the work of making meaning, hearers or readers become participants in the discourse.” (Tannen, 1989:17)

The manipulation of a type of language that is largely used in formal situations in order to make it less formal and more accessible to the target audience has demanded that certain techniques be incorporated in the process of message development.

“All involvement strategies are speaker’s ways of shaping what they are talking or writing about...They contribute to the point of the discourse, presenting the subject of discourse in a way that shapes how the hearer or reader will view it.”

(Tannen, 1989:29)

Characteristically, science employs an impersonal third person style, utilizing the passive voice with the active subject removed. Its vocabulary is also insulated from that of common usage. These characteristics have been established in the previous chapters, and we have analyzed the changes that occur in the development of radio programmes to farmers. An analysis of adaptive techniques would be incomplete without a study of involvement strategies.

Tannen (1989:11) cites Chafe (1985) to the effect that ‘the prototypical spoken genre is characterized by fragmentation and involvement while the prototypical written genre is characterized by integration and detachment.’ Written radio scripts are a ‘complex medium’ designed ultimately to be spoken. It is at the stage of scripting that the integration and detachment of the written word are blended with the fragmentation and involvement of the spoken. This blend achieves its ultimate realization in the radio programmes per se.

In the previous chapter, we saw that written scientific monologue can be mapped onto the audio medium (radio) using various methods. In this chapter, we investigate how these methods have lent themselves to stylistic manipulation in an effort to achieve message effectiveness. Radio uses words both didactically (to inform) and evocatively (to stimulate).

“As the sciences grow more and more specialized, communication between scientists and laymen becomes more difficult...mass media forms a very valuable bridge across the barrier between scientists and laymen. (Barry, 1965:192)

Tannen (1989:17) further postulates that readers or listeners who have worked at making sense of something understand that information better and care about it. Thus, involvement strategies create a mnemonic effect, leading to message retention. Some of these strategies have a visual, while others have a non-visual impact on the listener. Speech relies on changes in voice quality and prosody to make clear the meaning of an utterance.

4.1 VISUAL STRATEGIES: FIGURATIVE LANGUAGE

The language of the sciences is unambiguous, usually making factual statements that mean one thing and one thing only.

“In our daily lives, we use two languages, one spoken, the other written and there is much difference between them. For the scientist, his written language has no spoken equivalent and remains as is.” (Barry, 1965:179)

However, use of figurative language is a literary technique that uses language in a non literal manner to create vivid or dramatic images in the mind of the listener. This constitutes our first category of involvement strategies.

4.1.1 METAPHORS

In his article “What Metaphors Mean,” (Martinich, 1990:431) Davidson contends that:

“In the past, those who have denied that metaphor has a cognitive content in addition to the literal have often been out to show that metaphor is confusing, merely emotive, unsuited to serious scientific or philosophic discourse... metaphor is a legitimate device not only in Literature, but in Science, Philosophy and the Law: it is effective in praise and abuse, prayer and promotion, description and prescription.”

Examples of the descriptive use of metaphor can be found in several programmes. The Kiswahili programme on carrots is one of these:

“Kumbuka, matawi ndiyo jiko la mmea, ndiyo yenye chakula.”

(Remember, the leaves are the stove of the plant. They prepare food)

Because figurative language always runs the risk of being misunderstood, it is further clarified that this does not mean the ordinary stove, but should be understood in the sense that leaves prepare food for the carrots and this food is transported to the roots of the carrots, which are described as the stomach.

“Matawi ndiyo yanayotayarisha chakula cha karoti. Hicho chakula hupelekwa mizizini ambako ni tumbo la mimea.”

(Leaves prepare food for the carrot. That food is taken to the roots which are the stomach of the plant)

(Carrots, Dr. Kimani Njogu. n.d)

In this example, the metaphoric comparison is made between the function of the roots and the human stomach.

Apart from their descriptive function, metaphors also encode within them various effects brought about by the IF of the statement.

“Ng’ombe atageuka simba mara, kwa ajili ya uchungu.”

(The cow will become a lion at once because of pain)

(Mastitis, Dr. Kimani Njogu. P 20 Dec. 1995)

In this programme, metaphor is used not only to describe, but to warn at the same time. It gives additional force to the cautionary statement that tells the farmer to tie the legs of a cow infected with the disease in order to milk it. In another programme on Worms, a mother expresses her worry over her son's condition with:

“Tumbo lake limekuwa shimo.”

(His stomach has become a hole)

(Worms, Dr. Kimani Njogu. P 20 Dec. 1995)

The expressive use of metaphor shows the mental attitude of one interlocutor to another concerning a particular phenomenon, and if this is adequately convincing, it can shape the attitude of the listener in the desired direction. The following metaphor in Kikuyu is used to praise or express the benefits that will accrue from taking care of one's soil.

“Tiri ni utonga wa murimi”

(Soil is the farmer's wealth)

(Soil Conservation. Edward Njagi. B 22 March, 1995)

Metaphors are geared towards having the listener ascribe qualities of one thing onto another. Misunderstandings may arise if the wrong qualities are selected and ascribed. However, the context in which the metaphor has been used usually solves any difficulties in understanding. Apart from their descriptive power and the effect of the IF's encoded within them, metaphors are useful in creating vivid images and thereby having a memorable effect on the listener that would not otherwise be achieved through mere exposition. Hawkes (Leech, 1981:25) writes that:

“Metaphor is not fanciful embroidery of the facts. It is a way of experiencing the facts... it induces us to find interpretations beyond the truth functional meaning captured by paraphrase.”

4.1.2 SIMILES

“Similes make an explicit comparison where the terms compared are assumed to denote objects or relations of the same phenomenal universe.” (Levin, 1977:137)

Like metaphors, they belong more to the literary genre than the scientific in that they are inexact and ambiguous, while science demands exactitude and disambiguation. Both of these types of figurative language work on the assumption that there is a degree of shared knowledge that will lead the listener to correctly interpret them by:

First, recognizing that they are figurative and should not be taken literally; secondly, deciding to look for this interpretation and thirdly, assigning the correct characteristic out of a possible range of characteristics assignable to the items under comparison.

Though the written language of science does not utilize these literary resources, the power of parallelism in the world around us can act as a useful tool in aiding message retention. It is a technique that has been used in the radio programmes, and its use is a reflection of Tannen's view of involvement as mutual participation in sense making. Examples of similes include:

“Wataanza kuona kama gari lenye beteri mpya”

(They will start seeing like a car with a new battery)

(Carrots, Dr. Kimani Njogu. n.d)

This simile is used as an expressive to convince the interlocutor (and the audience) about the benefits of carrots to eyesight.

“Kitu chochote kinachokula, kinachokua, kinachozaa na kinachokufa kina uhai. Mimea ina uhai na kinapumua kama mimi na wewe.”

(Whatever eats, grows, reproduces and dies has life. Plants have life and they breathe like me and you)

(Carrots, Dr. Kimani Njogu. n.d)

This simile is used to convince the listeners that crops require care and attention in order to provide the expected yield.

“Mwili ni kama nyumba. Ni lazima mtu awe na vifaa vya kujenga, au vipi?

(The body is like a house. One must have the building materials, not so?)

(Malnutrition, Dr. Kimani Njogu. P 23 Dec. 1995)

“Ndama ni kama mtoto mdogo. Kwanza anyonye...”

(A calf is like a small child. First it must suckle...)

(Calf Feeding, Dr. Kimani Njogu. P 2 Jan. 1996)

From these examples, we see that whereas similes are couched as assertives (X is like Y), their interpretation requires that we not only take into account the expressive use of language but also assign the correct properties to the item under comparison. Most of the comparisons are

restricted to everyday phenomena: houses, children, people. Whatever images comparisons create, they have to be compatible and acceptable to the listener in order for the correct interpretation to be made, and for the similes to achieve the intended effect.

They must also be presented in a context which is recognizably one in which a figurative expression has been employed. The following hyperbolic comparison was presented in the form of a song in Kikuyu, based on the tomatoes of a certain RLG farmer, a successful tomato grower, about whom an anecdotal programme was made from an on-farm interview (Tomatoes. B 3 Sept. 1994):

“Nyanya iigana kiongo kia mwana”

(Tomato the size of a child’s head)

“Nyanya iigana kiongo kia ng’ombe”

(Tomato the size of a cow’s head)

This use of hyperbole caused listener’s to question the size of the said tomatoes with scepticism. Failure to determine that figurative interpretation is required and failure to seek such an interpretation could result from comparisons that are unacceptable to the listener. For example, tomatoes are used as food, thus it may be unacceptable to compare them to a child’s head. Also in an anecdotal programme, listeners are more likely to assign truth conditions to statements than to seek figurative interpretation.

4.1.3 IMAGERY

Imagery is the use of figurative language to produce pictures in the mind of the reader or listener. The techniques we have discussed so far are image creating devices. However, sometimes the process of image making occurs through a direct appeal to the imagination. One such occurrence is seen in the expression of measurements. Many of the programmes have content that requires the farmer to measure distances and amounts. The terms ‘foot’, ‘metre’ or ‘centimetre’ may not necessarily be meaningful to the listener. However, through a process of image making, this possible gap in understanding is bridged.

“Wajua ile rula inayotumiwa na watoto shuleni?...Basi hiyo ni futi moja.”

(You know that ruler used by children in school?...That is one foot)

(Potato Planting, Dr. Kimani Njogu. P 30 Dec. 1995)

A description of worms is as follows:

Daktari: Kuna aina nyingi za minyoo....Ile kubwa kama kalamu na huwa nyeupe nyeupe au rangi ya poda yaani nyekundu, nyekundu kidogo.... Aina nyingine huwa kama uzi uzi hivi, yaani ndogo ndogo...

(There are many types of worms.... That big one like a pen that is white or powdery, that is, slightly reddish.... Another type is like thread, that is, very small...)

(Worms, Dr. Kimani Njogu. P 20 Dec. 1995)

Here a combination of similes and adjectivals brings the picture to life.

4.1.4 PROVERBS

Like other types of figurative language, proverbs require a degree of shared knowledge between sender and receiver in order to be deciphered correctly and understood by the listeners.

Proverbs usually state a general truth or give advice. As such, they function as assertives, commissives, directives or expressives. Language may also be used proverbially, in a way that is typical or natural to the speakers of that particular language. These strategies belong more naturally to the literary than to the scientific registers, but they serve to emphasize messages in a culturally acceptable manner.

The proverbial expression, ‘muugi ni mwire,’ in Kikuyu literally translates into ‘a wise person is a well-advised one.’ It is used in a programme on Cow Management (Dr. Charles Gachuri. B 29 March 1995) in the context of ‘sound knowledge leads to good performance.’ The proverb encodes within it the additional force of a commissive: a promise that if the farmer follows what they have been taught, they will reap the expected benefits.

Proverbs have been more extensively used in the Kiswahili programmes. Because many of the techniques/practices being promoted in the programmes may seem involving and time consuming to the farmer, proverbs are used as a method of appropriately encapsulating the message: that the end results (benefits) of good farm and health practices are worth their patience and perseverance. For example:

“Mvumilivu ndiye hula bivu”

(The patient one eats that which is ripe)

(Potato Planting, Dr. Kimani Njogu. P 30 Dec. 1995)

The English equivalent is ‘Everything comes to him who waits.’

Proverbs are not always encoded as a statement by one speaker. Sometimes, they are coded in the form of a question, requiring involvement through dialogue in order to be complete:

Question: Usisahau, kinga ni bora kuliko nini?

(Do not forget, prevention is better than what?)

Answer: Kuponya

(A cure)

(Pig Rearing, Dr. Kimani Njogu. P 6 Jan. 1996)

This encodes within it the force of a warning, while at the same time encouraging that the correct practices should be followed. Another frequently occurring proverb with the same IF is,

“Dalili ya mvua ni mawingu”

(Clouds are a sign of rain)

(Calf Diseases, Dr. Kimani Njogu. P 28 Dec. 1995)

Often, the use of such proverbs is explicated, for example by use of illustration.

“Dalili ya mvua ni mawingu. Si lazima mtoto mdogo aweze kukwambia eti ana maumivu sikioni. Zamani kama mama angemwona mtoto akikunakuna sikio alijua kuna jambo hapo.”

(Clouds are a sign of rain. It's not necessary that a small child be able to tell you their ear is painning. Long ago, mothers knew something was wrong if the child was scratching at the ear)

(Ear Infection, Dr. Kimani Njogu. P 23 Dec. 1995)

Proverbs are also explicated through overtly relating them to the programme theme.

“Si Waswahili walisema, ukitaka cha mvunguni, ni sharti uiname? Basi ukitaka mavuno bora, lazima ushughulike.”

(Did not the Swahili people say, if you want what is in the box (mvunguni), you must bend? Then if you want a good yield you must take steps to get it)

(Potato Planting, Dr. Kimani Njogu. P 30 Dec. 1995)

Such proverbs can also be presented as encoding agreement between interlocutors on the theme being taught.

Anna: Si wajua mtaka cha mvunguni

(You know that if one wants what is in the box)

Juma: Eeh, sharti ainame, na mimi najua nichumie juani nilie kivulini

(Eeh, they must bend, and I know I must gather in the sun so that I can lie in the shade)

(Kales, Dr. Kimani Njogu. n.d)

Proverbs are also used in an implied rather than an overt manner. Their meaning is retained because of word-collocations:

“Mazito haya! Tufanye nini sasa na maji yamesha mwagika?”

(This is bad news! What do we do now and the water has already spilt?)

(Malaria, Dr. Kimani Njogu. P 29 Dec. 1995)

This brings to mind the saying, ‘maji yakimwagika, hayazoleki,’ or its English equivalent, ‘It’s not use crying over spilt milk.’

Proverbs are also used elliptically where the first part is stated and the next implied. This follows the assumption that the proverbial implications are known and recoverable from context.

Paulo: Ukitaka cha mvunguni
(If you want what's in the box (mvunguni))
Esta: Aah! Lakini uzito huo wote...
(Aah! But all that weight...)

The response indicates that the interlocutor has understood the elliptical proverb, even though she is reluctant to apply its advice to her situation.

Proverbs exist and persist because there is some truth value in them, and they add to the truth value of the radio programmes.

4.1.5 JUXTAPOSITION

Juxtaposition upholds the natural semantic connection between ideas. This causes the hearer to make associative connections. Whereas similes are used mainly to bring out comparisons, juxtaposition usually shows contrast. The Kiswahili programme on AIDS is an example of hortatory discourse where the options of life and death are juxtaposed, each of them being a matter of choice.

Daktari: Chaguo ni lako. Ukichagua uhai, chagua mpenzi mmoja tu mwaminifu. Ukichagua kifo, chagua wapenzi wengi. Chaguo ni lako.
(The choice is yours. If you choose life, choose one faithful partner. If you choose death, choose many partners. The choice is yours)

(AIDS, Dr. Kimani Njogu. P 21 Dec. 1995)

4.1.6 CONNOTATIVE NAMES

At times, the names that have been selected to describe radio characters are connotative, in a manner commonly used by novelists such as Charles Dickens.

In a programme on Tomato Planting (Dr. Kimani Njogu. P 27 Dec. 1995) Jane Mlachake visits an Agricultural Officer in order to seek information on tomato growing. These characteristics of initiative, interest and willingness to learn make her name rather appropriate

and it connotes the saying 'mlachake hachoki' which means that a person who strives to achieve for themselves does not tire. Similarly, in a programme on Bananas (Dr. Kimani Njogu. P 23 Dec. 1995), a successful tomato grower called John Nyanya is referred to in a conversation between two speakers. Use of such names does not have an overt impact on the message, but they enable the listener to make associative connections.

4.1.7 RHETORICAL QUESTIONS

Linguistic communication involves more than the issuing of overt statements. Although encoded as questions, rhetorical questions involve the artistic use of language for dramatic effect. They require no answer and have a greater impact on the listener than a mere statement would.

One of the definitions of rhetoric (Oxford Advanced Learner's Dictionary, 1989) is:

“(art of) using language impressively or persuasively in public speaking.”

Larson, (1984:236) writes that:

“Rhetorical questions can be used as suggestions, to rebuke, to introduce a new topic, to show emotions, to arouse thought or to make a statement.”

As such there is skewing between the grammatical form and IF. In the following example, the speaker uses a rhetorical question to arouse thought and make a statement.

“Mundu atenendia irio, ni ambe atare kii? - Hathara.”

(Before one sells off produce, what should one calculate first? - Production cost)

(Malnutrition, Dr. Rhoda Munene. B 23 Nov. 1994)

Rhetorical questions provide focus to the point(s) that will be taught in the radio programmes, especially when they are used in the introductions. They are persuasive and encode IF expressives such as warnings.

“Je msikilizaji, wajua kuwa kelele nyingi zaweza kukudhuru maskio? Je, wajua kuwa kuna magonjwa kama ukambi yanayoweza kumfanya mtoto awe kiziwi? Jiunge nami katika kipindi hiki ujue mengi juu ya utunzaji wa maskio.”

(Listener, do you know that a lot of noise can harm your ears? Do you know there are diseases such as measles that can make a child deaf? Join me in this programme to find out more about care of the ears)

(Ear Infection, Dr. Kimani Njogu. P 23 Dec. 1995)

In the following example, from a programme on Kales (Dr. Kimani Njogu. n.d), rhetorical questions have the effect of raising the listener's interest by arousing their curiosity. This is because instead of a reduction in uncertainty through provision of an adequate amount of information, there is a gradual increase in uncertainty. No answers are provided, only more questions.

“Je, unajua upandaji bora wa sukuma wiki zenye afya? Wajua waweza kupanda mboga zako moja kwa moja shambani bila kumwaga tutani? Je, ni mbolea au fataleza gani zifaazo?...”

(Do you know how to plant healthy kales properly? Do you know that you can plant them straight away in your garden without use of ridges. Which manure or fertilizers are preferable?...)

Rhetorical questions subtly demand that one begins the thinking process by forming some sort of mental response or attitude to the question posed. Thus, they are designed to have a Perlocutionary Effect on the listener. They are also designed to focus on the individual by asking the question, 'do you know?'

Assertive statements lack the dramatic appeal of rhetorical questions:

“Katika kipindi cha leo, tutajifunza mengi kuhusu homa ya mapafu, yaani pneumonia.”

(In today's programme, we will teach ourselves much about pneumonia)

(Pneumonia, Dr. Kimani Njogu. P 23 Dec. 1995)

4.2 SOUND STRATEGIES

4.2.1 PARALINGUISTIC EFFECTS

“Language is the symbolic process that mediates between, on the one hand ideas/ feelings and on the other hand, the sounds produced by the tongue, larynx and so forth.”

Friedrich, (Tannen, 1989:16)

In conversation, we use many sounds: sounds of surprise, anger and joy, among others. Our interlocutors recognize these sounds for what they are and in some cases, use them as conversational cues. Some of the programmes are dialogic, modelled on conversation. As such, some of these paralinguistic features have been incorporated in them, almost giving the impression of spontaneous speech. A Kikuyu programme on Coffee encoded the following:

“Ngurani ya kahua, ri, gwa Society gwa Society, ri; hii! Iyo no itume mundu aage ona kuheo mbecha cia kuringana noria ungi; ni undu yukanagira na kuringana na uria kahua kamenyereirwo.”

(The difference in qualities of coffee from one Society to another, hii! That dictates the difference in rates of earnings by Society members. It depends on the quality of the coffee)

(Coffee, Edward Njagi. B 7 Oct. 1994)

This is in response to the preceding dialogue where one interlocutor questions the reason why his Society pays so little. Use of the exclamation ‘hii!’ is expressive in the sense that it shows the speakers attitude. It indicates a reluctant understanding that conditions are difficult because the money one gets from the Society is dictated by the quality of one’s produce.

Paralinguistic features also encode agreement or understanding as in the following sample from a Kiswahili programme on Intercropping:

“Aha! Sasa nimeelewa. Yaani matawi yakianguka chini kwa wingi yanafunika mchanga na kwa hivyo mvua ikinyesha haiwezi kufagia udongo wa juu.”

(Aha! Now I understand. That is, many fallen leaves cover the soil and when it rains they protect the topsoil from being swept away)

(Intercropping, Dr. Kimani Njogu. P 5 Jan. 1996)

Here, the use of 'aha' marks agreement with the speaker's interlocutor, and understanding of the message. Other effects are used to underline the point that is to come:

"Katika namna hii, mmh, ulishaji wa nguruwe chakula hiki huwa imemwgiliwa sakafuni bila kuchanganywa na maji."

(In this method, mmh, feeding of the pig involves pouring food that has not been mixed with water on the floor)

(Pig Rearing, Dr. Kimani Njogu, P 6 Jan. 1996)

The use of 'mmh' draws the attention of the listener to what is going to be said next.

Paralinguistic features such as these are also used to mark topic shifts and as feedback and comprehension devices. In prepared radio dialogue, their use simulates spontaneous conversation.

4.2.2 REPETITION

Written language does not usually require repetition in the way that spoken language does. Readers can go over written sections at their leisure, and as such repetition would only lead to monotony. However, the ephemeral nature of speech demands that there is some repetition in dialogue.

One method of summarizing messages is through paraphrase. Such utterances are commonly couched as assertives, or statements of fact. For example, in the Kiswahili programme on Kales, one interlocutor summarizes the major points of the dialogue in a series of fourteen points at the end of the programme. Repetition of ideas need not only occur programme finally. As in conversation, it may be an internal, on-going discourse process. In dialogue, such repetitious summaries have been presented in several ways: as Question - Answer and Remark - Evaluation sequences, among others:

Paulo: Hivi ni kusema kwamba vyakula bora zaidi ni hivi tulivoyo navyo hapa shambani? (IU-Q)

(This is to say that the food we have right here in our gardens is better?)

Anna : Kweli kabisa! Vyakula hivi huwa na manufaa mengi zaidi. (RU-A)

(Completely true! These crops have other greater benefits)

(Cassava, Dr. Kimani Njogu. P 5 Jan 1996)

The RU-A is actually a reaffirmation of the semantic thrust in the preceding dialogue, which is summarized by the IU-Q. It is also a trigger to the proceeding dialogue which discusses the benefits of traditional crops. The following is an IU-Rem, RU-Ev sequence in which the IU-Rem serves as an indirect question, and the RU-Ev as its answer. It is a paraphrase of the preceding dialogue.

“Hivyo ni kusema kuwa ni vizuri kununua wanyama wangu kutoka mahali ambapo kuna historia ya kupata wanyama wazuri?” (IU-Rem)

(That is to say that it is good to buy my animals from a place that has a history of breeding healthy animals)

“Kweli kabisa...” (RU-Ev)

(Completely true)

(Pig Rearing, Dr. Kimani Njogu. P 6 Jan. 1996)

Such sequences are used as a means of repetition in dialogue. They concurrently provide a paraphrased summary and evaluation of such statements as true or false. In the above cases, both summaries are evaluated as true.

Repetitious statements need not always be semantic equivalents to the original statement. Sometimes information is repeated and amplified, or either a more specific or a more general comment is made. An example of amplification is seen in the programme on Tuberculosis. The scene is at a Chief's meeting with a doctor and two characters, Juma and Lucy as the main speakers. In this scene, a large number of ideas are expressed, but not expanded upon. In the following scene, between Juma and Lucy, these ideas are re-expressed and amplified. Amplification may occur as a IU-Q and RU-A sequence as follows:

Lucy: Daktari alisema kwamba tangu UKIMWI uingie nchini, TB umeongezeka.
Lakini mimi sikuelewa ni kwa nini? (IU-Q)

(The doctor said that ever since AIDS entered the country, TB has increased.
But I didn't understand why)

Juma: Ni kwa sababu UKIMWI hupunguza kinga za mwili. Lakini haina maana mtu akiwa na TB ni lazima awe na UKIMWI. (RU-A)

(It is because AIDS lowers the body's immunity. But it does not mean that a person with TB necessarily has AIDS)

(Tuberculosis, Dr. Kimani Njogu. P 23 Dec. 1995)

Amplification may occur in IU-Rem and RU-Res sequences:

Lucy: Halafu, daktari alisema mtu hutokwa na jasho jingi sana hasa wakati wa usiku. (IU-Rem)

(Then the doctor said a person sweats a lot especially at night)

Juma: Kweli kabisa, halafu dadangu, mwili mzima huwa hauna nguvu. Mtu hukonda weee! (RU-Res)

(True enough. Then, my sister, the whole body lacks strength. A person becomes thin, weee!)

More general comments can also be used to restate an idea unit, as in the following dialogue:

Anna: ...tumia dawa za Diazinon, Dimethoate, Rigor E ... yaani dawa za kuua wadudu

(...use medicines such as Diazinon, Dimethoate, Rigor E...that is, insecticides)

Juma: Ai! Anna unanishangaza. Diazinon, Dimethoate, Rigor E - nitakumbuka majina hayo kweli?

(Ai! Anna., you amaze me. Diazinon, Dimethoate, Rigor E - will I really remember those names?)

Anna: Wewe usijali majina...utakapomwambia muuza duka la madawa ya mifugo na mimea 'dawa ya kuua wadudu,' basi.

(You, don't worry about the names... when you tell the shopkeeper 'insecticide' that's all)

(Kales, Dr. Kimani Njogu. n.d)

The last statement uses the more general term 'dawa ya kuua wadudu (insecticide) instead of specifics. The opposite occurs in the following sequences:

Anna: Je, ugonjwa huu unaweza kuwashika watu wa aina gani? Ni mtu yeyote anayeweza kupata ugonjwa huu? (IU-Q)

(Which kind of people are infected by this disease? Can anybody get this disease?)

Daktari: Ndio. Hebu niwajulishe ya kwamba huwezi ukamjua mtu mwenye UKIMWI kwa kumwangualia sura na umbo tu... (RU-Res)

(Yes. Let me inform you that you cannot tell a person suffering from AIDS by their face and appearance alone)

A little further on, this question is repeated and the answer provided with more specific emphasis.

Esta: Bado hujatwambia ni watu wa aina gani wanaoambukizwa ugonjwa huu. (IU-Q)

(You have not yet told us which type of people get infected with this disease)

Daktari: Hakuna mtu - narudia - hakuna mtu ambaye hawezi kuambukizwa ugonjwa huu, awe baba, mama, msichana, mvulana, mzee au mtoto mdogo. Mtu yeyote anaweza kuambukizwa. (RU-Res)

(There is nobody - I repeat - there is nobody who cannot get infected with this disease, be they a man, woman, girl, boy, old man or small child. Anyone can get infected)

This statement is made in a very slow and deliberate manner for rhetorical and emphatic effect. Thus, emphasis is achieved on two levels: through repetition of information with emphasis on specifics (Hakuna mtu - awe baba, mama ...) and through effects of intonation. Repetition in its various forms has been referred to as rhetorical underlining: parallelism, paraphrase and tautologies. (Richards:1983)

4.3 ANECDOTES

In the previous chapter, we saw that real life experiences of farmers have been developed into teaching programmes for fellow farmers. This is a way of adding greater involvement and

reality to the programmes in contrast to simulated conditions. It is also a way of inspiring farmers through publicising their successes. So far, three anecdotal programmes have been prepared in Kikuyu based on on-farm interviews.

Farmers also feature in programmes in the sense that their individual questions based on their specific situations are addressed in Question and Answer programmes. We classify use of anecdotes as an involvement strategy in the sense that it, more than the methods we have been describing, creates a memorable and empathic effect in the communicative event between sender and receiver.

4.4 COMIC RELIEF

The formality of teaching science over the radio has been neutralized by instances of comic relief. These are breaks in the information flow that are humorous to the listener but make the message more memorable. Breaks also occur that are not necessarily humorous in the form of a short switch in the dialogue, often used to emphasize the message.

In a programme on Pig Rearing (Dr. Kimani Njogu. P 6 Jan. 1996), Anna and Paulo represent two farmers. As a successful pig farmer, Paul is educating Anna on methods of effective pig rearing. The programme is encoded as a dialogue between two friends, successfully neutralizing the formality of a 'teaching situation' and allowing for such extemporaneous comments as:

Anna: Hivyo ni kusema nitakuwa tayari kuwalaki hao watoto
(That is to say I will be ready to welcome these children)

Such lighthearted comments are not geared towards the solicitation for, or provision of information. They are statements that carry within them some humour and cause the listener to empathize with the sentiments being expressed by the speaker. In the above case, for example, the comment rounds off an involved discourse on the proper care and keeping of pigs. The discourse has reached a peak in that at this point the pig has been appropriately taken care of and is ready to give birth. Anna's comment therefore also bridges this information and that which follows it.

4.5 OBSERVATIONS

Of the 39 respondents, there was unanimous agreement that similes and repetition helped in understanding messages. There was 97.4% and 94.9% agreement for imagery and proverbs respectively. In terms of figurative language, metaphors were considered least likely to assist remembrance or understanding of messages, with only 82% being in agreement. In the other categories, there was no active disagreement, as those who failed to respond in the affirmative said that they didn't know. However, metaphors had a 15.4% disagreement rate.

CHAPTER FIVE

5.0 SUMMARY AND CONCLUSIONS

This study has aimed at discovering adaptive techniques used in developing radio programmes for small scale farmers. In so doing we have studied the transformations in agriculture and health registers at the lexical and stylistic levels. The objectives were: to describe linguistic adaptations to register specific vocabulary across language, to establish methods used in developing dialogic radio programmes from written scientific materials and to describe the involvement strategies that have been employed in the development of these programmes. Finally, in describing these adaptive techniques, we have assessed the efficacy of these methods in audially communicating to farmers in these specialized areas.

To achieve our objectives, we listened to 50 fifteen minute programmes that have been prepared for Radio Listening Group members. Out of these, data has been drawn from 37 programmes. The following statistics, as well as the statistics in the preceding chapters, have been derived from interviewing 39 farmers in Nyeri District who have been listening to radio programmes in Kikuyu, some who have listened to pilot programmes in Kiswahili. The sample was derived from four Radio Listening Groups. 46.2% were male and 53.8%, female. 17.9% were aged between 21-30, 10.3% between 31-35, 5.1% between 36-40, 20.5% between 41-50 and 46.1% were over 50. 48.7% understand some English, Kiswahili and Kikuyu, 84.6 understand Kiswahili and Kikuyu and 100% understand Kikuyu.

The study has indicated that at the lexical level, all respondents felt that vocabulary used was simple to understand. Our analysis also revealed that the process of radio programme development from written scientific materials involved lexical simplification through various techniques: assimilation, calquing and code-mixing among others. These adaptive lexical techniques enable local language to be used as mediums of learning in the sciences: agriculture and health.

We had hypothesized that educational science messages could be adapted in their surface realization to suit the demands of an alternative medium and audience for effective learning to occur. When asked to state the type of radio programmes preferred, 46.2% of the farmers preferred conversational drama, 43.9% preferred anecdotal programmes and 33.3% preferred teacher talks. These percentages are inclusive of seven farmers who indicated more than one preferred format. All farmers interviewed had adopted a new concept as a result of the radio messages. Although the programmes aim at achieving such changes, there are different types of messages and modes of presentation. 43.6% felt that they had adopted a new technique because they had been urged to do so. 41% felt that they had changed because a programme explained what to do and why, while 20.5% felt that it was because they had received instructions on a procedure to follow.

These intuitions from farmers indicate a response to the IF of message. The feeling of being 'urged' to do something most likely arises out of expressives and commissives. Assertives and directives, while probably encoding a higher information load, may increase knowledge without being a sufficient catalyst to spur change in behaviour.

In terms of involvement strategies, farmers almost unanimously agreed that these techniques did not detract from their understanding of the message, and assisted in message retention. It is noteworthy, however, that metaphors received a 'no' response from 6 farmers, 15.4% of the sample. Five of these understand Kikuyu, Kiswahili and English. These objections arose when the metaphoric comparison was deemed to be overly hyperbolic. This indicates that figurative language, while being a welcome addition to scientific register, must be used with discernment.

5.1 RECOMMENDATIONS FOR FURTHER RESEARCH

This study covers only one aspect of the RLG communications process: the transformational component. However, the entire process is actually an educational endeavour using Radio and Radio Listening Groups as a method of Distance Education to small-scale farmers. In

terms of teaching and learning, Discourse Analysis has been enriched by studies involving classroom discourse which have led to a more comprehensive conceptualization of what goes on in the classroom. Classroom discourse is distinguished by two types of exchanges: boundary and teaching. Boundary exchanges involve framing and focusing while teaching exchanges involve opening, answering and follow-up.

The difference between classroom exchanges and radio teaching lies in the fact that there is no face to face interaction between the teacher and the learner during learning sessions. Learners send their responses to programmes via audio cassettes, which are transcribed and translated after which the requisite follow-up is made. Thus, the time differential between exchanges is greatly increased, although the basic structure of classroom exchanges are observable, with some modifications.

Because farmer responses to radio programmes are available, together with follow-up programmes based on these responses, further research into teaching and learning exchanges in RLGs would provide useful insight into language use in Radio and Radio Listening Groups for farmer Education. This method, as mentioned previously, is based in part on Conversational Theory. A true sense of the on-going conversation can only be revealed through a study of the feedforward and feedback that constitute the entire system. Conversational theory is associated with "a system of learning in which the subject matter is broken down into basic elements and reconstructed into arrangements of topics which provide a map for students... The student is free to adopt his own learning strategy within defined limits." (Hartley and Davis, 1978:59).

Future research may choose to focus on one particular discourse type, the farmer responses and the follow-up programmes it elicits. It should be noted though, that the discourse types we have highlighted are selected idea units used to describe the use of that particular discourse type in radio learning, and do not necessarily run through the entire programme.

APPENDIX I: QUESTIONNAIRE TO RESPONDENTS

NAME: _____

AGE:	Below 20	☐	36 - 40	☐
	21 - 30	☐	41 - 50	☐
	31 - 35	☐	Over 50	☐

RLG GROUP: _____

Languages Understood: _____

1. Do you have difficulty understanding radio messages with some English words?
- (a) Yes

(b) No
2. If no, why not?
- (a) Understands English

(b) Can get meaning from context

(c) Others _____
3. When the term ‘tugunyu tunyinyi’ and ‘nematode’ are used together, does the former help make the meaning of the latter clear to you?
- (a) Yes, very much

(b) Yes

(c) No

(d) Doesn’t know
4. Are the words in your agriculture and health programmes simple or difficult to understand?
- (a) Simple

(b) Difficult

(c) Others _____
5. Which type of programme do you prefer?
- (a) Programmes made from on-farm interviews

(b) Talks from teachers

(c) Conversation between two or more people

(d) Doesn’t know

6. Between the following, which message would make you want to use CAN fertilizer more?
- (a) You can use another fertilizer called CAN which helps ensure your harvest is good.
 - (b) The farmer can use another fertilizer called CAN which helps ensure that his/her harvest is good.
 - (c) Doesn't know
7. Give reasons
- (a) Doesn't know
-
-
8. Do persuasive radio messages eg. "Bananas are easily available in the market. They can be used as fruits or boiled and mashed as food," encourage you to adopt certain practices?
- (a) Yes
 - (b) No
 - (c) Doesn't know
9. Do you adopt new ideas when programmes are more factual than persuasive?
- (a) Yes
 - (b) No
 - (c) Doesn't know
10. Has message presentation on radio influenced you to change your farm/health practices?
- (a) Yes
 - (b) No
 - (c) Doesn't know
11. If yes, what type of message was it?
- (a) It urged me to adopt the practice
 - (b) It explained what should be done and why
 - (c) It gave instructions on what to do
 - (d) Other _____
 - (e) Doesn't know

12. Do the following help you retain and understand a message better?

(I) **Metaphor** e.g. (i) Soil is the farmer's wealth

(ii) Your cow will become a lion because of the pain of mastitis.

(a) Yes

(b) No

(c) Doesn't know

(II) **Similes** e.g. (i) A calf is like a small child. First it must suckle

(ii) Your body is like a house. One must have the materials with which to build it up

(a) Yes

(b) No

(c) Doesn't know

(III) **Imagery** e.g. (i) That ruler used by children in school is one foot long

(ii) A small type of worm, like thread

(a) Yes

(b) No

(c) Doesn't know

(IV) **Proverbs** e.g. (i) Prevention is better than cure

(ii) It's no use crying over spilt milk

(a) Yes

(b) No

(c) Doesn't know

(V) **Repetition**

(a) Yes

(b) No

(c) Doesn't know

APPENDIX II: LIST OF RESPONDENTS

NAME	RADIO LISTENING GROUP
Jane Wanjiku	Rukira
Peter Kariho	Rukira
Ngari Kamau	Rukira
Gerald Gichuki	Rukira
Danson Wahome	Rukira
Ruth Wairimu	Ruthanji
Mwangi Kariuki	Ruthanji
Agnes Wanjiku	Ruthanji
Godfrey Wachira	Ruthanji
Rose Wamuyu	Ruthanji
Moses Kibugu	Ruthanji
Gacuiiri Gathuku	Ruthanji
Grace Ndirangu	Ruthanji
Grace Wairimu	Ruthanji
Elizabeth Wambui	Ruthanji
Beatrice Nyambura	Ruthanji
Leah Mumbi	Ruthanji
Mary Wanjiru	Ruthanji
Jackson Kingori	Ruthanji
Bancy Wangu	Ruthanji
Eliud Mwangi	Ruthanji
Veronica Wanjiru	Mutathi-ini
Catherine Wanjiru	Mutathi-ini
Margaret Wangui	Mutathi-ini
Ibrahim Githui	Mutathi-ini
Christopher Karumba	Mutathi-ini
Monica Wanjiku	Mutathi-ini

Wallace Wangombe	Kihora-Kariguini
Cornelius Wanyoko	Kihora-Kariguini
Gakuu Mathema	Kihora-Kariguini
Jetrudah Wangeci	Kihora-Kariguini
Teresa Wanjiku	Kihora-Kariguini
Jane Nyambura	Kihora-Kariguini
Christine Wairimu	Kihora-Kariguini
Maina Gichuki	Kihora-Kariguini
Charity Waheti	Kihora-Kariguini
Daniel Mwangi	Kihora-Kariguini
Lucy Wangui	Kihora-Kariguini
Isaac Gichuhi	Kihora-Kariguini

RADIO PROGRAMME REFERENCES

Bibliographic Note: Names of scriptwriters and dates are assigned to Radio Programmes as Broadcast (B) or Production (P) where available.

Gachuiri, C.	(B 18 Jan. 1995)	East Coast Fever
Gachuiri, C.	(B 29 March, 1995)	Cow Management
Munene, R.M	(B 11 Jan. 1995)	Diabetes
Munene, R.M	(B 27 July, 1994)	Tomato Planting
Munene, R.M	(B 23 Nov. 1994)	Malnutrition
Mutitu, E.W	(B 13 April, 1994)	Maize Planting
Mutitu, E.W	(B 6 April, 1994)	Compost Manure, Crop Rotation and Intercropping
Mutitu, E.W	(B 20 April, 1994)	Maize Diseases
Ngechu, M.W	(B 3 Sept. 1994)	Tomatoes (on-farm interview)
Njagi, E.M	(B 15 Jan. 1995)	Onions
Njagi, E.M	(B 8 March, 1995)	Neem Tree
Njagi, E.M	(B 21 Dec. 1994)	Amaranthus
Njagi, E.M	(B 22 March, 1995)	Soil Conservation
Njagi, E.M	(B 7 Oct. 1994)	Coffee
Njogu, K	(P 29 Dec. 1995)	Calf Weaning
Njogu, K	(P 21 Dec. 1995)	East Coast Fever
Njogu, K	(P 28 Dec. 1995)	Peptic Ulcers
Njogu, K	(P 23 Dec. 1995)	Bananas
Njogu, K	(P 23 Dec. 1995)	Ear Infection
Njogu, K	(P 23 Dec. 1995)	Pneumonia
Njogu, K	(P 28 Dec 1995)	Calf Diseases
Njogu, K	(P 21 Dec. 1995)	AIDS
Njogu, K	(P 20 Dec. 1995)	Mastitis
Njogu, K	(P 23 Dec. 1995)	Malnutrition

Njogu, K	(P 30 Dec. 1995)	Potato Planting
Njogu, K	(No date)	Carrots
Njogu, K	(P 23 Jan. 1996)	Amaranthus
Njogu, K	(P 6 Jan. 1996)	Coffee
Njogu, K	(P 5 Jan. 1996)	Cassava
Njogu, K	(P 20 Dec. 1995)	Worms
Njogu, K	(P 2 Jan. 1996)	Calf Feeding
Njogu, K	(P 6 Jan. 1996)	Pig Rearing
Njogu, K	(P 29 Dec. 1995)	Malaria
Njogu, K	(P 27 Dec. 1995)	Tomato Planting
Njogu, K	(No date)	Kales
Njogu, K	(P 5 Jan. 1996)	Intercropping
Njogu, K	(P 23 Dec. 1995)	Tuberculosis

REFERENCES

- Akmijan et al, eds. (1990) Linguistics: An Introduction to Language and Communication. London: MIT Press.
- Austin, J.L (1962) How to do Things with Words Caredon: OUP.
- Bagui, G.J (1995) 'The Substance of Health Communication Education'. In Africa Media Review. VI.20 No. 2, Nairobi: ACCE
- Baron (1974) 'Functional Motivation for Age Grading in Linguistic Innovation'. In Anderson et al (Eds.) Historical Linguistics 1: Syntax Morphology, Internal and Comparative Reconstruction. Amsterdam: North Holland Publishing Co. Ltd.
- Barry, Sir G. et al, eds. (1965) Communication and Language: Networks of Thought and Language. London: MacDonald and Co. Ltd.
- Bosompra, Kwado (1995) 'Sources of Health Information among Rural Dwellers in Africa - Ghana'. In Africa Media Review VI. 20 No. 2, Nairobi: ACCE
- Brown and Yule (1983) Discourse Analysis Cambridge: CUP
- Burton, Deirdre (1980) Dialogue and Discourse: A Sociolinguistic Approach to Modern Drama Dialogue and Naturally Occurring Conversation. Routledge and Kegan Paul Ltd.
- Chafe, W.L (1982) 'Integration and Involvement in Speaking, Writing and Oral Literature' In Tannen (Ed.) Spoken and Written Language: Exploring Orality and Literacy. New Jersey: Ablex Publishing Corp.
- Collinge, N.E. ed. (1990) An Encyclopaedia of Language. London: Routledge
- Cook, Guy (1989) Discourse. Oxford: OUP.
- Coulthard and Montgomery, eds. (1981) Studies in Discourse Analysis. Routledge and Kegan Paul Ltd.
- Crystal and Davy, (1969) Investigating English Style. London: Longman Ltd.
- Crystal, David (1987) The Cambridge Encyclopaedia of Language. Cambridge: CUP

- Davidson, Donald (1990) 'What Metaphors Mean'. In Martinich, Philosophy of Language. New York: OUP
- Edmonson, Willis (1981) Spoken Discourse: A Model for Analysis, Essex: Longman Group Ltd.
- Fishman, J.A et al, eds. (1968) Language Problems of Developing Nations. John Wiley and Sons.
- Harre, Rom (1990) 'Some Narrative Conventions of Scientific Discourse'. In Christopher Nash (Ed.) Narrative and Culture. London: Routledge
- Hartley and Davis, eds. (1978) Contributions to an Educational Technology VI.2. London: Kogan Page Ltd.
- Hartman and Stork (1972) Dictionary of Language and Linguistics. Essex: Applied Science Publishers.
- Hoey, Michael (1983) On the Surface of Discourse. George, Allen and Unwin Publications Ltd.
- Hudson, R.A (1980) Sociolinguistics. Cambridge: CUP
- Hymes, Dell (1970) Foundations in Sociolinguistics: An Ethnographic Approach. London: Tavistock Publications Ltd.
- Kamau, L.N (1989) An Assessment of the Importance of the Radio in Transmitting Kiswahili Family Planning Programmes (Unpublished Dip.Mass Communication dissertation, UoN).
- Karanja, Lucy (1993) A Discourse Analysis of the KBC TV Interview (Unpublished M.A dissertation, UoN)
- Lamarque, Peter (1990) 'Narrative in Culture'. In Christopher Nash, (Ed.) Narrative and Culture. London: Routledge
- Larson, M.L (1984) Meaning Based Translation: A Guide to Cross Language Equivalence. Lanham: University Press of America
- Leech, G.N et al (1981) Style in Fiction: A Linguistic Introduction to English Fictional Prose. New York: Longman Inc.

- Levin, S.R (1977) The Semantics of Metaphor, Baltimore: John Hopkins University Press
- Longacre (1983) The Grammar of Discourse, New York: Plenum Press.
- Mohlig and Heine (1980) Language and Dialect Atlas of Kenya: Geographical and Historical Introduction, Berlin: Dietrich Reimer Verlag
- Mrutu (1990) The Use of Radio in Promotion of Adult Education in Tanzania (Unpublished Dip. Mass Communication, UoN).
- Ngugi, Muiru (1995) 'Development Communication: A Clarification of Contrasts'. In Africa Media Review, VI. 20 No.2 Nairobi: ACCE
- Ong, W.J (1977) Interface of the Word: Studies in Evolution of Consciousness and Culture, London: Cornell University Press.
- _____ (1982) Orality and Literacy: The Technologizing of the Word, London: Methuen & Co. Ltd.
- Pratt, M.L (1977) Towards a Speech Act Theory of Literary Discourse, Ontario: Indiana University Press.
- Regent (1985) 'A Comparative Approach to the Learning of Specialized Written Discourse'. In Riley (Ed.) Discourse and Learning, Essex: Longman Group (UK) Ltd.
- Richards, J.C et al, eds. (1983) Language and Communication, Essex: Longman Group (UK) Ltd.
- _____ (1992) Longman Dictionary of Language Teaching and Applied Linguistics, Essex: Longman Group, UK.
- Rogers, E.M (1971) Communication of Innovation: A Cross Cultural Approach, New York: The Free Press
- Rosen (1972) 'The Language of Textbooks' in Language and Education: A Sourcebook, London: Routledge and Kegan Paul Ltd.
- Schiffrin, Deborah (1994) Approaches to Discourse, Massachusetts: Blackwell Publishers

- Searle, J.R (1970) Speech Acts: An Essay in the Philosophy of Language. London: Cambridge University Press.
- Sperber and Wilson (1986) Relevance: Communication and Cognition, Oxford: Basil Blackwell Ltd.
- Tannen, Deborah (1989) Talking Voices: Repetition, Dialogue and Imagery In Conversational Discourse. Cambridge University Press.
- Werth, Paul (1984) Focus, Coherence and Emphasis, Kent: Croom Helm Ltd.
- Widdowson, H.G (1984) Explorations in Applied Linguistics 2. Oxford: OUP
- Willis, R.E (1967) Writing Television and Radio Programmes. Holt, Rinehart and Winston Inc.