
UNIT 5 LANGUAGE AS A MEDIUM FOR COMMUNICATION OF THOUGHT

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5.0 OBJECT

After reading this Unit you will be able to:

- know the nature of language in terms of its main functions and chief characteristics;
- discuss the reasons for language variation; and
- describe the difference between written and spoken communication.

5.1 INTRODUCTION

As librarians, *we are*, as it *were*, *surrounded by language - several languages*, in fact. So much so, that we often begin taking the books in different languages that we handle everyday, for granted. But sometimes we may pause to ponder about the medium in which thought is expressed in these books, i.e., language.

What is a language? What are its main functions, and its chief characteristics? Why do different speakers who apparently seem to speak the same language vary so much in their accent, vocabulary and even sentence structure? Since we are mainly surrounded by written language, we should know what is the nature of written communication, and how it differs from the spoken form?

These are some of the questions that we shall address ourselves to in this Unit.

5.2 ORIGIN AND FUNCTION OF LANGUAGE

Our curiosity about ourselves, and our most unique possession, language, has led to numerous theories about the origin of language. However, there is no way, at present, to *prove* or *disprove* any of these theories. But, although, how language began is a puzzling question; why language began is much clearer.



Language, perhaps began because human beings needed a greater degree of cooperation with each other in order to survive, and this cooperation required an effective communication system. Therefore, the primary function of language is to convey information. In fact, it is the function of language that we find in the books in the libraries.

Language can also be used to communicate feelings and emotions. In addition, there is the language of social talk; 'How are you?' 'Good to see you', 'Isn't it hot and humid today?'. This is known as *phatic communication*, and it is a device to establish and maintain social contact at a friendly level.

Language also has a 'clue-bearing' role, that is, it is an indirect means of conveying information about the speaker. It is through a person's language that we can find out the region where she/he comes from, her/his social status, occupation, etc.

Human beings also use language for purely aesthetic reasons. In writing a novel or a poem, people manipulate words in the same way as they use colour in painting a picture.

Self Check Exercise

1) What are the functions of language?

Note:

- i) Write your answer in the space given below.
- ii) Check your answer with the answers given at the end of this Unit.

5.3 CHARACTERISTICS OF HUMAN LANGUAGE

In the previous section we discussed some of the functions of language. In this section we go deeper into the issue of what exactly is language. Can one define it? Is language the exclusive property of the human species? If language is viewed only as a system of communication, then obviously many species communicate with each other. Human beings also use systems other than their language to relate to each other and to send "messages". For example, they wave to each other, they smile and use other means of "body language" to convey a message.

To understand human language one needs to see what is special and unique to language. One of the best ways to answer this question is to compare human language with animal communication, and see where the similarities and differences lie.

5.3.1 Use of Sound Signals

Human language is a signalling system which utilizes sound to express meanings. However, this is not a unique characteristic of human language, as several insects, birds and animals also use sounds to communicate.

5.3.2 Arbitrariness

In animal communication, there is frequently a connection between the signals and the messages sent. For instance, an animal who wishes to warn an opponent may simulate an attacking attitude. A cat, for example, will arch its back, spit, and appear ready to pounce.

In human language, the reverse is true, and there is no link between the signal sent and the message intended. That is, the symbols used are *arbitrary*. For example, there is no connection between the word DOG and the four legged animal it symbolizes. It can equally be called Kutta (Hindi), chien (French), Hund (German).

5.3.3 Cultural Transmission

It is said that human beings are biologically programmed to acquire "language". However, they learn a specific language only by exposure to it. That is, language is handed down by one generation to another. A child brought up in isolation, away from human beings, does not acquire language.

In animal systems, a far greater proportion of communication is genetically inbuilt. For instance, a cuckoo will sing a fully developed song, even if it never hears another cuckoo sing. On the other hand, a skylark's song is almost wholly learned.

5.3.4 Displacement

Most animals can communicate about things in the immediate environment only. For instance, an animal will utter its danger cry only when danger occurs. It cannot give any information about a dangerous situation that had occurred yesterday.

Human beings, on the other hand, can communicate about events which are separated in time and space. For example, if someone says that 'I was afraid when the thief arrived', it is not necessary that the speaker still is afraid. This phenomenon is known as **displacement**, and is an essential property of human language, although it occurs occasionally in the animal world as well.

The best known example of this in the animal world is the communication system of honey bees. If a worker bee finds a new source of nectar, it returns to the hive and performs a complex dance in order to inform the other bees of the exact location of the nectar, which may be several miles away. But even bees are limited in this ability. They can communicate with each other only about nectar. Human beings, however, can talk on any topic, and it does not matter how the topic of conversation is separated in time and space.

5.3.5 Structure Dependence

Animals have a stock of basic sounds (a cow has under ten, while gorillas and chimpanzees have between twenty and thirty) which they can use only once. That is, the number of messages an animal can send is restricted to the number of basic sounds, or, in the more complex systems, a few simple combinations of sounds. And there is no known internal organisation within this system.

Human language, on the other hand, is not a haphazard list of individual sounds. Most sounds become meaningful only when they are combined with other sounds. This organisation of language into two layers - a layer of sounds, which combine into a layer of larger units (such as words) - is known as *duality of structure*. A communication system with duality is much more flexible than one without it, because many more messages can be sent.

Moreover, there is an internal order which these sounds follow. For instance, sounds such as a, b, s, t can be arranged only in 4 possible ways in English - tales, bats, stab, bast. Possibilities such as sbat, abts, stba are excluded.

A similar kind of internal organisation occurs at the sentence level. Human beings can automatically recognize the patterned nature of language and





manipulate 'structured chunks' of language.

For example,

That beautiful woman	gave me flowers.
That woman	gave me flowers.
She	gave me flowers.

Human beings can understand that these sentences are structurally equivalent.

Animals, as far as we know, do not use structure dependent operations.

5.3.6 Creativity

The most important distinction between human and animal communication is that human beings are essentially *creative* in their use of language. On the other hand, animals have a limited number of messages that they can send or receive. For example, bees can communicate only about nectar. Dolphins, in spite of their intelligence, use a large number of clicks, whistles and squawks, to communicate merely about the same thing over and over again.

This type of restriction is not found in human language which is essentially a *creative process i.e.*, human beings can produce absolutely new utterances whenever they feel like it. A person can utter a sentence which has never been said before, in the most unlikely circumstances, and still be understood. Even in every day routine communication, a person is not obliged to say the same thing over and over again.

There is another dimension to the essential creativity of human communication, and this dimension we may call *functional creativity*. This basically refers to the ability of human beings to evolve more complex communicative systems, as the complexity of their life increases. As human beings have progressed from nomadic life, to the more stable homestead and agricultural society, and finally to the highly complex urban society, language has also evolved to meet the demands of each type of society. For example, a person living in a complex urban society, where she/he is expected to play a variety of roles at the same time, will need to have command of more than one language, as well as several registers, in order to perform her/his roles effectively.

Take the instance of a Tamilian living in Delhi, she/he needs to have command of at least 3 languages:

- Tamil : Mother tongue - to communicate with family members.
- Hindi : Language of the host society required to interact with vegetable and fruit vendors, shopkeepers, peons in offices, etc.
- English : Necessary for business. Also required for communication with other educated people, whether in the office or the neighbourhood.

Besides being multilingual she/he must also be aware of stylistic differentiation, from the formal to the casual style, as well as different registers required to negotiate interaction in diverse fields.

An Eastern Hindi-speaking person in Delhi will also need to have a fairly large linguistic repertoire at her/his disposal. For example she/he may require.

- Bhojpuri : For communication with family members--especially of the older generation.
- Khari Boli : For communication with neighbours, shopkeepers as well as close friends. They will probably speak to their children in this dialect rather than Bhojpuri.
- English : Required for communication with educated non-Hindi speakers, in offices and educational institutions.

Self Check Exercise

2) Suggest three properties of human language which are rare or absent in animal communication.

3) What is creativity?

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.

5.4 LANGUAGE VARIATION

If you and your neighbours are Hindi mother tongue speakers, you can talk to one another and understand each other quite easily. Yet, you must be aware that you do not speak exactly like your neighbours, even though you speak the same language. For instance, a young neighbour (say a teenager) would speak quite differently from you, a lady in your neighbourhood would probably have a very 'correct' pronunciation. Another neighbour is a 'purist', and insists on speaking a Sanskritized variety of Hindi. These unique characteristics of a speaker are referred to as the speaker's *idiolect*.

However, beyond these individual differences, the language of a group of people may show regular variations from that used by other groups who speak the same language. For example, the Hindi spoken by people living in Varanasi is systematically different from that spoken in Delhi and Aligarh. The two groups of people are, therefore, said to speak different dialects of the same language. These systematic or dialectal differences may be due to regional separation, socio-economic status, caste, ethnic group, sex, and so on.

In this section you will learn about some of these dialects.

5.4.1 Regional Dialects

If we travel from one place to another in a particular direction, we notice linguistic differences. When the areas are close to each other, the differences will be relatively small. However, the further we get from our starting point, the larger will be the differences from that point. In other words, dialectal diversity tends to increase proportionally to the degree of communicative isolation between the groups. This is obvious if we merely consider the different native varieties of English spoken in England, America and Australia. Nearer home, if we take the case of Hindi spoken in different parts of India, we will find differences in the level of sounds, as well as vocabulary and grammar.



We give you some examples of Khari Boli (Hindi of Delhi) and Bhojpuri.

Differences at the level of sounds

English	Khari Boli	Bhojpuri
boy	ladka	larika/laika
Fish	Machali	Machari
Fire	Aag	Aagi
to take	Lena	Leb

Differences at the level of words

English	Khari Boli	Bhojpuri
tree	per	gaach
meat	maas	segoti
gram	chana	bhut
foot	paer	god
light	prakash	anjor

5.4.2 Caste Dialects

In many parts of India, society is stratified into different castes and linguistic differences are observed among them. However, increasing education and urbanization has narrowed down these linguistic differences. Certain examples from Telugu are given below which were initially due to caste differences, but now exist only in the case of rural vs. urban speakers.

At the level of words

Word	Urban/(originally Brahmin) Variety	Rural / (originally Non-Brahmin) Variety
What	eemiti	eendi
sari	chiira	kooka
sickness	jabbu	roogam

At the level of sounds

went	velleanu	elleanu
lakshmi (Goddess)	Lakshmi	lacmi

5.4.3 Social Class Dialects

Besides regional dialects, dialects can also vary due to differences in social class. In fact all dialects are both regional and social, since all speakers have a social background and a regional location.

Social classes, however, cannot be clearly defined, because they are simply aggregates of people with similar social and economic characteristics; and social mobility, i.e., movement up or down the social hierarchy is always possible.

Social class dialects are not very prevalent in India, but are part of the class societies of the English speaking world. In Indian languages, the difference exist on rural-urban axis and educated-uneducated axis.

A number of studies have shown that certain variables correlate very closely with social class in a number of English varieties. The example given below will give you an idea.

In standard English the third-person present tense singular form of verb has a suffix- 's', which distinguishes it from other persons:

1st person	I know
2nd person	you know
3rd person	she/he/it knows

In some varieties of English this - 's' is not present, at least in the speech of some people. The following forms may occur at least in the speech of some people.

- She like milk.
- He go home.
- He do a lot of mess, don't he?

Since standard English has the suffix -'s', and the standard variety is generally most closely associated with higher social groups, it is suspected that there may be a direct correlation between social class position and the usage of -'s'. Table 1 shows that the suspicion is quite justified, i.e., there is a clear correlation between social class and the usage of -'s' in Norwich in England.

Use of verbs without 's' in Norwich

Middle middle class	0%
Lower middle class	2%
Upper working class	70%
Middle working class	87%
Lower working class	97%

Table 1: Use of Verbs Without - 's' in Norwich

These scores suggest that there is a clear division of society into two main social class groups, 'middle class' and 'working class', and this social barrier gets reflected in language.

5.4.4 Sex Differences

Linguistic research has shown that in many societies, the speech of men differs from that of women. In some conservative societies this can be due to segregation of the sexes. But what about societies where men and women communicate freely with one another? Why, then do such differences arise? Labov (1966) and Trudgill (1972, 1974) have looked at western societies of America and England, respectively. They have demonstrated through several examples, that women used linguistic forms associated with the prestigious standard more frequently than men, and suggested that personal insecurity and social expectations can be some of the reasons for it. Trudgill (1974) argued that women are socially and economically less secure than men, and tend to compensate for it linguistically. Since society expects women to be more correct, discreet, quiet and polite, it increases the pressure on them to use more 'correct' and prestigious linguistic forms than men.

With regard to Indian languages, not many studies have been conducted. There was one study by Mukherjee (1980) who worked on the assimilation of Hindi speech by Bengalis and Panjabis living in Delhi. She too found that females of these communities showed a higher percentage of assimilation of linguistic features associated with Hindi, than males. She also attributed this phenomenon to social insecurity.

5.4.5 The Standard

In the previous sections, terms such as 'prestigious standard', 'standard variety', and so on are used. What do these terms imply? The standard variety is usually that





variety which is used in print, and is normally taught in schools and to foreigners learning the language. It is a variety that is codified i.e., grammar books and dictionaries are written on the basis of this variety. Moreover, it is used in news broadcasts, and spoken by the educated people. Many people consider this variety as the 'real language', and those that differ from it as dialects. However, this is only one variety amongst many, and its importance lies in the fact that it has attained a certain prestige.

But how does one dialect become so prestigious? One reason can be that the dialect is spoken in the political and cultural centres of the country and gains importance. The dominance in France of the Parisian dialect, and in England, of the London dialect, is attributable to this course.

However, we must be very clear about one point. A standard dialect may have several functions. It may bind people together, or provide a common written form for multidialectal speakers. But, it is neither more expressive, nor more logical, nor more complex than any other dialect. There are no scientific or linguistic reasons to consider it superior to any other dialect.

Self Check Exercise

- 4) What are the reasons for people speaking differently from one another?
- 5) What is a standard dialect? How did it attain prestige? Is it scientifically superior to the other dialects?

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.

5.5 DIFFERENCE BETWEEN SPOKEN AND WRITTEN COMMUNICATION

There are basically two ways in which we communicate with each other - through writing as well as verbally. Of course speech is primary, and is acquired spontaneously in early infancy through exposure. Writing is learned much later. Also the written language cannot be seen in isolation from the spoken language. In general, our understanding of written language depends on our knowledge of the corresponding



spoken language, and on our linguistic competence in general. Of course, there may be some cases, where a person may be able to read and write a language like Sanskrit, but not be able to converse in it.

In libraries, the readers communicate with the authors through their books which are in the written mode. In this section, we look at some of the similarities and differences between the two modes of communication - spoken and written.

- i) Speaking is commonly performed in face to face interaction and occurs as part of a dialogue, i.e., there is a reciprocal exchange in which both reception and production play a part. And any misunderstanding which may arise can be cleared up in the process of interaction, in the form of a feedback provided by the participants. This means that speakers can afford to be imprecise and inexplicit, and they can clarify and modify their meanings as they go along according to how they are received. A good deal of written language is non-reciprocal and non-interactive, in that the reader and writer are not visible to each other. The writer is not sure who her/his audience is going to be. It normally is an ill-defined group, although, specialized writing would be written for a well-defined homogeneous group of fellow professionals. Also, some forms of written discourse are reciprocal and interactive - for example, exchange of letters and notes to colleagues. But the vast bulk of printed material has no well-defined addressee.
- ii) Therefore, since most written language is public (i.e., published) the language is planned, edited, redrafted before it appears in print. Spoken language, on the other hand, is composed spontaneously as it is spoken, and is mostly unplanned and relatively unpredictable.
- iii) It follows that the written medium is permanent, as it is published. We, therefore, do not have to be understand a written text at the first reading. It can be re-read, skimmed through, sections can be omitted and referred to later. This is very different from spoken language, which has to be processed in real time, in lock-step with the speaker. Also since written language is permanent, it can be transmitted across time and space. This cannot happen in the case of spoken language, apart from recorded radio talks and lectures.
- iv) The written language reflects, to a large extent, the elements and rules that together constitute the grammar of the language. Written language is more conservative than the spoken language. When we write something, particularly in a formal style, we are more apt to obey the "prescriptive rules" taught in school. Spoken language is much less structured than written language. It contains many incomplete sentences, often simply sequences of phrases which are connected by *and, but, then*, etc. There is more repetition of syntactic forms, also a great deal of rather generalized vocabulary, such as *a lot of got to do, this thing, nice stuff, things like that*, etc. A large number of 'fillers' are also used: *well, erm, I think, you know, if you see what I mean*, and so on.
- v) However, both spoken and written language show stylistic variation from formal to informal style. Spoken language shows more variation than written language. It ranges from the formal language of lectures and speeches to casual and intimate conversation between individuals who know each other well, and share a similar background. Written language shows relatively less stylistic variation and more homogeneity, since it is used mostly for formal purposes. Written language in casual style such as for personal letters, is used much less, compared to the massive amount of formally published material that characterizes modern industrial societies.
- vi) Another feature of written language is that it is decontextualized, i.e., it has to stand on its own. Writers are uncertain what they can assume their readers know, and readers are usually unable to ask the writer for clarification. Spoken language, on the other hand, is context dependent.
- vii) All written language is on the standard language side of the scale. Instance of non-standard written language (dialect poetry for example) is the exception rather than the rule. And often when non-standard language is written in novels, it is in quotation marks, as the written representation of spoken language. Or it may be used for stylistic purposes. In fact, there is a special relationship between writing and the standardization of language. This is because standardization implies codification and planning of the language by dictionary makers, grammar book writers, and so on.
- viii) Finally, in libraries, one of the most important functions of written language depends on its ability to create durable and accurate records for reference in



the present and the future. And this storage function of written language has to be learned by ordinary people. It is a common complaint made by teachers and libraries that students often have no idea how to exploit the information storage potential of libraries. They need to know the different systems of cataloguing and indexing, systems of abstracting services, and computer-assisted search systems. By familiarizing themselves with the storage function of written language as well, students can make best use of libraries.

Self Check Exercise

6) Go through the previous section again. Then write 4 differences between spoken and written communication, in short, in the form of a table.

Note:

- i) Write your answer in the space given above.
- ii) Check your answer with the answers given at the end of this unit.

Spoken Communication	Written Communication
i)	
ii)	
iii)	
iv)	

5.6 SUMMARY

A library is primarily made up of books, and any person working in a library is surrounded by books. In this Unit, we made you aware of the crucial aspect of any book, i.e., *Language*- which an author uses to communicate her/his thoughts and ideas.

Language is defined in terms of its main functions and chief characteristics. Reasons for language variation, as well as language standardization are discussed. Finally, since the medium that the librarians are most exposed to in the course of their professional duties is the written language, differences between written and spoken language are discussed.

5.7 ANSWERS TO SELF CHECK EXERCISES

- 1) One of the main functions of language is to convey information. We use language for several reasons. It is used to communicate feelings and emotions. In addition, there is the language of social talk known as *phatic communion*, and this helps to establish and maintain social relationships. Language can also be an indirect means of conveying information about a speaker, i.e., what region a person comes from, her/his social status, occupation, etc. Finally, language is also used for aesthetic purposes like writing a poem or a novel.
- 2)
 - i. Creativity
 - ii. Structure Dependence
 - iii. Arbitrariness.
- 3) Creativity : This refers to the capacity of human beings to produce and understand large number of sentences, most of which they might not have heard or used before.



There is another dimension to creativity of human communication, and this we may call *functional creativity*. This basically refers to the ability of human beings to evolve more complex communicative systems, as the complexity of their life increases. For instance, a person living in a complex urban society is required to have command of more than one language and several registers as well.

- 4) There are several reasons why people speak differently from one another. One reason may be that they belong to different regions. Another can be that they belong to a higher or lower social strata. Moreover, the age and sex of a person also cause differences in speech. Finally, there are personality differences; a person may be a 'purist' and insists on speaking what she/he considers a pure form of a language.
- 5) A standard variety is a dialect which has gained prestige in a speech community. It cuts across regional differences, and, therefore, provides a uniform means of communication. It is a variety that is codified, i.e., dictionaries and grammar books are written on the basis of this variety. Moreover, this is the variety used in mass media and education. One reason why dialect attains prestige and becomes the standard is that it is spoken in political and cultural centres of the country, and gains in importance because of that.
No, there is no scientific reason for its superiority.
- 6)

Spoken Communication

- i) knows one's audience reciprocal
- ii) exchange
- iii) spontaneous and unpredictable
- iv) not permanent
more informal more stylistic
variation

Written Communication

- audience often unknown non-reciprocal
and non-interactive edited
permanent - records can be kept.
more formal less stylistic variation

5.8 KEY WORDS

Accent	:	Features of a person's pronunciation which help us identify where he is from, i.e., from a certain region or social strata,
Arbitrariness	:	One of the properties which defines human language as distinct from animal communication, whereby 'Linguistic Forms' lack any physical correspondence with the entities in the world to which they refer.
Creativity	:	Refers to the capacity of human beings to produce and understand an indefinitely large number of sentences, most of which they might not have heard or used before.
Cultural Transmission	:	Property of human 'Language' whereby the ability to speak a language is transmitted from generation to generation by a process of learning, and not genetically.
Displacement	:	A defining property of human language, whereby language can be used to communicate about events removed in time and space. This property occurs very rarely in animal communication.
Duality of Structure	:	Property of human 'Language', which sees language as being structurally organised in terms of two levels - level of sounds and level of words.
Idiolect	:	The linguistic system of an individual speaker, i.e., her/his personal dialect.



Language Variation	:	Difference in linguistic behaviour because of differences in region, social class, occupation, sex, etc.
Phatic Communication	:	Refers to language used for establishing or maintaining social contact, rather than for exchanging information or ideas.
Perspective	:	Characterises any approach which attempts to lay down rules of correctness as to how language should be used, with an aim to preserve imagined standards.
Purist	:	One who insists on preserving what she/he considers the 'correct' form of language, and is against language variation and language change.
Register	:	Variety of languages defined according to their use in situations, e.g., a register of scientific, religious, formal English.
Standard Variety	:	A prestige variety of language used within a community. Standard/languages/dialects/ varieties cut across regional differences, providing a unified means of communication, and thus creating an institutionalized norm, which can be used in mass media, in education, and so on.
Stylistic Differentiation	:	Refers to the level of formality which speakers adopt in situations, i.e., formal, colloquial, casual, informal style.

5.9 REFERENCES AND FURTHER READING

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UNIT 6 FUNCTIONAL ENGLISH STYLE

Structure

- 6.0 Objectives
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- 6.2 Writing Process
 - 6.2.1 Selection of Topic
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- 6.6 Summary
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- 6.8 Key Words
- 6.9 References and Further Reading

6.0 OBJECTIVES

After reading this Unit you will be able to:

- understand functional English style;
- explain the concept of functional style;
- set guidelines for the discussion of writing;
- provide adequate information for the preparation of a composition;
- view functional English style in terms of diction, syntax and expressive devices; and
- define terms to enable the non-specialist to understand them.

6.1 INTRODUCTION

Language is an essential and a powerful medium of communication. It is but natural that scholars have tried to study its structure and function. In its most general sense, the term structure applies to the main abstract characteristics of language. Language has a structure in the sense that it is a network of interrelated units, the meaning of the parts being specifiable only to the whole. On the other hand, the term function refers to the role language plays in the context of society and the individual. Language functions to communicate ideas, express attitudes and identify certain socio-linguistic situations such as formal, informal or colloquial.

Language style becomes functional when in addition to denotative meaning it gives additional information about geographical, ethnic and social background of the language user. A widely recognized feature of linguistic identity is the regional variety of language. Thus, from the use of English one can recognise Americans, Britishers, Indians, etc. Languages as well as dialects convey geographical information about their speakers. A language is but a dialect that has become socially prestigious. Following Trudgill (1983) a correlation between dialect, social class and regional variation can be represented (Figure 1):

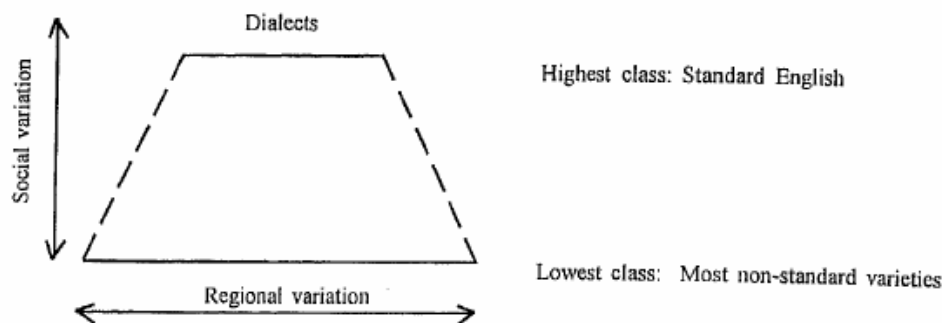


Figure 1 : Social Class and Regional Variation

Figure 1 intends to locate a speaker socially as well as geographically. At the top are people of the highest social class who speak the standard dialect with very little regional variation. Further down the class scale, we encounter more regional accent and dialect variation. At the lowest level we encounter the widest range of dialects and language varieties.

Many features of functional language correlate directly with the characteristics of the context, or situation, in which a communicative event takes place. Classifications vary but most approaches recognize the central role played by the following:

- 1) Setting : Language is shaped by time and place in which the communication act takes place, e.g. informal language is the talk amongst friends, and formal language in a lecture talk, etc.
- 2) Participants : Language is also shaped by the relationship existing between participants. Informal language would mark the discourse between friends, while formal structures would be used between, say, a student and his examiner, etc.
- 3) Activity : Language is also shaped by the kind of activity in which a participant is engaged in, e.g. intimate while talking to a close friend, and formal while developing an argument in a public debate, etc.

Roman Jakobson (1960) has highlighted six functions of language corresponding to the six factors in a communication situation. The focus on the *addresser* constitutes the *emotive* function; the focus on the *addressee*, *context*, *contact*, *code* and *message* constitutes the *cognitive*, *referential*, *phatic*, *metalingual* and *poetic functions* respectively. The emotive function is expressive of a speaker's attitudes or feelings; the cognitive function influences the feelings or attitudes of the addressee; the referential function provides the external situation in which the message occurs; the metalingual function occurs when one talks about the code itself, the poetic function serves to maintain a rapport between the speakers; and the poetic function can be visualised in the novel expressions which are unique and singular. Each dominant function of language brings about different language structures.

Since the aim of this lesson is to highlight functional English style in its written form, it would, therefore, be quite fitting to point out features which are central to the written style as opposed to the oral or spoken style.

Writing and speech are seen as alternative systems of linguistic expression. Most obviously, they contrast in physical form i.e., speech uses 'phonic' substance in the form of air-pressure movements, while writing uses 'graphic' substance, typically in the form of marks on a surface. But of far greater interest are the differences in the structure and function of the two styles.

The differences of structure and usages between spoken and written language are inevitable because they are the products of different kinds of communication situations. Speech is time-bound, dynamic and transient - part of an interaction between the speakers. Writing, on the other hand, is space-bound, static and



permanent - the result of a situation in which generally the producer of the message is distant from the recipient - and, often, may not even know the recipient. The points of contrast between the two styles can be highlighted as below:

- (i) The permanence of writing allows repeated reading and close analysis. It promotes careful organisation and more compact and intricately organised structures. Units of discourse, such as sentences and paragraphs, are clearly identified through graphic layout and punctuations. In contrast, the spontaneity and rapidity of speech minimizes the chance of complex preplanning and hence promotes looser constructions, repetition, rephrasing and filler phrases (such as *you know, you see, well, etc.*) and the use of information and pause to divide utterances into manageable units.
- (ii) The participants in written interaction cannot usually see each other, hence they do not rely on the context for clarity of meanings as they would when speaking. Thus contexts are inbuilt in the writing, and ambiguity and vagueness are minimised by reducing the use of deictic expressions such as *this one, here, there, etc.*
- (iii) Written language displays many unique features such as punctuation, capitalisation, spatial organisation, and even colour and graphic effects. While question marks can be expressed by a rising intonation, exclamation marks or underlinings by increased loudness etc, most graphic features, even in the form of graphs etc, do not have an equivalent in the spoken style.
- (iv) Many grammatical and lexical forms frequently occur in written style such as relativisation and technical terms, etc. On the other hand certain slang and obscene expressions, though generally found in speech, are not normally found in written language.
- (v) Written language tends to be more formal than spoken language and is more likely to provide the standard variety. Because of its quality of permanence it has a special status for all treaties, contracts, agreements and scholarly treatises.

Having viewed the differences between written and spoken style, in the remaining part we shall focus on the functional English style of written compositions. We shall be dividing the discussion under four broad headings, namely:

- 1) Writing Process
- 2) Writing Paragraphs
- 3) Forms of Discourse
- 4) Rhetoric of Language

6.2 WRITING PROCESS

Writing is an important means of communication. It is in fact a complex form of behaviour which involves the mind, senses, feelings and the hands of the writer. In writing one must have something to say, a point to begin and a point to end, words to express thoughts and feelings, a tone to indicate nuances beyond words and certain punctuations to module the sentences and make the meanings clear. Showing improvement in writing, subsequently, is a matter of gaining self-confidence and of becoming more conscious of the ways to vary expression and to control language. The writing process involves the following steps: Selection of Topic,

- Limiting the Topic,
- Thesis Statement,
- Developing the Form of the Thesis.

6.2.1 Selection of Topic

A composition must be on a topic. If a topic is not given it has to be selected. The selection would depend upon your interest, knowledge and experience. At first you could select a broad topic in tune with your liking and knowledge of the subject. The broad topic may be a selection out of a still larger list, which could consist of topics listed below:

- | | |
|-----------|----------------|
| Sports | Music |
| Libraries | Parents |
| Driving | Consumer goods |



Advertising Politics
Engines Marriage, etc.

You may, for instance, choose to write on the broad topic 'Politics'.

6.2.2 Limiting of Topic

Limiting a topic involves a process of selection and exclusion. The first step is to determine the aspects of a general topic that one selects. Next, you have to decide about what you want to say about the topic. You must divide your broad topic into aspects, then select one and limit it to fit your information, your attitude, and the space available to you.

After your choice of the broad subject i.e., 'Politics', you must determine what particular area of politics interests you and what you think about it. Since you cannot cover the whole field there is a need to delimit the topic. This could involve a consideration of the following, type of aspects of politics:

- Domestic politics
- International politics
- Two - party system
- Women in politics
- Voter's responsibility
- Political compromise

Depending on your knowledge and experience, suppose you select 'political compromise' You may, then, like to delimit it still further by considering some more sub-aspects is political compromise like :

- International politics
- State politics
- City politics
- Campus politics

May be campus politics interests you more and you may select it as a topic. This topic could be further delimited by making a list of possible approaches to this aspect, probably as given below:

- Political compromise between student representatives and college administration,
- Political compromise between campus candidates,
- Students' inability to use political compromise,
- Destructive force of campus political compromise,
- Positive force of campus political compromise, etc.

May be, you select 'Political compromise between student representatives and college administration' as your topic depending upon your interest and knowledge of the subject

6.2.3 Thesis Statement

Having selected the topic you can now write a thesis statement - a statement containing the controlling idea or the focus of your paper/composition. After having studied the conflicting views expressed by others, you probably would have an opinion which could be in the form of a thesis statement:

Various student groups at the college have been unable to use political compromise to make any significant changes in the college's administrative policies because student spokesmen are often unreasonable in their demands, too impatient in negotiating their terms, and too emotional in presenting views. (Flanigan 1974:10)

The emerging view is that though you sympathise with the aims of the student representatives, you do not see any success in their methods. Thus, you have something to write about. The unifying element within the thesis statement is the focus of the area of support, and, say, you have found out three major areas of support:



Unifying Element

Various student groups at the college have been unable to use political compromise to make any significant changes in the college's administrative policies

Areas of Support

... because student spokesmen are often

- I. unreasonable in their demands,
- II. too impatient in negotiating their terms
- III. too emotional in presenting their views.

6.2.4 Developing the Form of the Thesis

Having decided what you plan to support and having determined the kind of support, you can consider the organisation of the essay.

It could be as follows:

Title	
1) Content of introductory paragraph	: Something to interest the reader. - Special information that provides necessary background, and indicates the question or the problem. - Thesis statement.
2. First major area of support	- First paragraph of development.
3. Second major area of support	- Second paragraph of development.
4. Third major area of support	- Third paragraph of development
5. Content of the concluding paragraph	- Generally, an effective summing up of the major areas that support the essay and related focus producing a note of conviction and finality.

This skeletal form could then be filled as below, forming thus the outline of the composition:

1. Title : Political compromises in the college
2. Introduction : *Thesis* : Various student groups presenting their views (see Section 6.2.3 for *Thesis Statement*)
3. Area I : I Student spokesmen are often unreasonable in their demands. They demand
 - A) elimination of any prohibition on the nature of student programmes,
 - B) elimination of cost as a factor in selecting programmes, and
 - C) removal of administrator from the programme selection committee.
4. Area II : II Student spokesmen are often too impatient in negotiating their terms. They want
 - A) tabling of items without any further consideration and discussion, and
 - B) no delay in the enactment of the concessions.
5. Area III : III Student spokesmen are often too emotional in presenting their views.
 - A) They become indignant when asked to supply details regarding past incidents and recent proposals.
 - B) They interrupt and refuse to hear others
 - C) They bring up irrelevant matters.
6. Conclusion : Generally the thesis is restated in other words.

The above text becomes the outline of the composition which can be elaborated with facts. Each point can be further developed. This Unit makes you aware of the processes involved in compositions, but the detailed writing of the composition is left to you.

**Self Check Exercise**

- 1) What are the steps involved in the writing process?
- 2) Write down the form of the composition of the selected topic.

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.

6.3 WRITING PARAGRAPHS

Now that you are aware of the overall writing process from restrictions of broad topic to outlining the composition - we can now look at the largest unit of a composition, i.e., the paragraph.

Paragraph is a way to divide continuous discourse into units of convenient segments to make it meaningful and readable. A paragraph cannot be defined as a grammatical unit like a sentence, because it can vary in size, shape and functions. Emphasis, therefore, has to be on what paragraph does rather than what it is.

Paragraphing practices vary greatly. They may be visual devices, as newspapers use them; they may be logical divisions, each division expanding on one point in some depth; and they may also be rhetorical units, as individual writers may use them for special effects. However, in all these uses the paragraph represents a relatively short unit of varying length that divides the discourse for purposes of readability and better understanding.

Generally, there are four kinds of paragraphs: introductory, developmental, transitional and concluding. Let us briefly look at each of these.

6.3.1 Introductory

A well-written introductory paragraph helps arrest reader's attention. It also helps in establishing the tone and the subject and its limitations. It also states briefly the precise thesis. In this paragraph there is no place for dull and hackneyed statements, etc.



The introductory paragraphs can use devices to varying degree, devices which could be, among others, say, statistical, rhetorical, illustrative, etc. See the examples below:

- 1) *Statistical* : According to the C.B.I., abduction is one of the least reported crimes. The bureau estimates that five times more crime occurs than is reported. In 1991 about ten thousand cases were reported
- 2) *Rhetorical* : What chance do you have of escaping the criminal element in our society?
- 3) *Illustrative* : A few weeks ago, two men were walking along the street of a large city singing exuberantly. A man, holding his ears and having an anguished expression on his face, asked them to stop. One of them handed him a ten dollar bill. Somewhat surprised, he thanked him and asked them to go on singing. As a matter of fact he followed them no longer holding his ears! This incident suggests the soothing power of money.

6.3.2 Developmental Paragraphs

The developmental paragraphs are the most important ones in a composition. They provide the support for your thesis. The paragraphs of development must support the stated or implied thesis statement, and the material within it must support one controlling idea. A well written developmental paragraph has the following characteristics:

- 1) It has a stated or implied *topic sentence* suggesting the controlling idea of the paragraph
- 2) It has *unity*, a single dominant idea.
- 3) It has *coherence*, the paragraph's sentences are connected in such a way that the supporting material flows smoothly and logically, contributing to the unity of the paragraph.
- 4) It has *logical organisation* and adequate development of the supporting material to give an understanding of the controlling idea.
- 5) It often has a *concluding statement*, repeating the controlling idea of the paragraph, and adding emphasis and finality to it.

It can be seen from figure 2 that the paragraph and the composition have a similar basic structure.

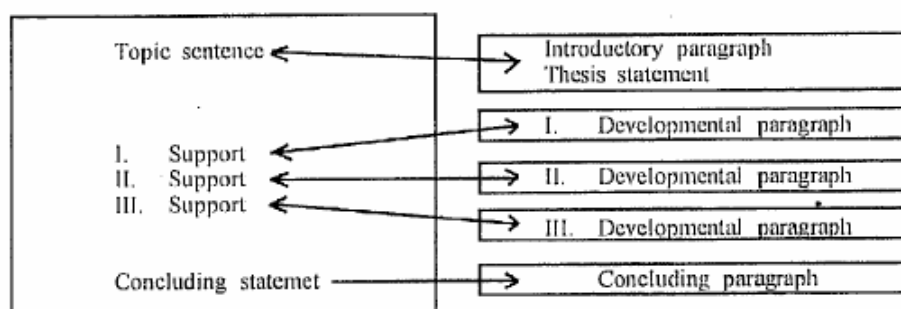


Figure 2 : Similarity in Basic Structure of Paragraph and Composition

a) Writing Topic Sentences

The topic sentence depends on the already written thesis for the controlling idea of the developmental paragraph. The topic sentence has the following characteristics:

- 1) It supports the thesis
- 2) It has only one controlling idea embedded in the sentence
- 3) It gives the central idea of the paragraph
- 4) Usually it occurs in the beginning of the paragraph with the support following:

Let us return to the composition. 'Political compromises in the college'. In its Development paragraph I the controlling sentence could be:



“Student spokesmen are often unreasonable in their demands”. The statement draws itself from the thesis statement and will also have supportive arguments as shown earlier in Section 6.2.4.

b) Unity in the Paragraph

It means unity of thought and no digression from the topic. This would be possible only if you develop one dominant idea about the topic. Let us look at a probable Development paragraph 1 of the composition ‘Political compromises in the college’: Student spokesmen are often unreasonable in their demands. They make demands which are difficult to be met by any responsible administration. Let us look at three *of* their demands. First, they demand the elimination *of* any prohibition on the nature of student programmes. *If* there is no prohibition then programmes of the kind can also take place without any check. Second, they demand the elimination of cost as a factor in selecting programmes. If this demand is conceded then there will be budgetary problems and the student programmes will become lopsided. And, third, they demand that the administrators remove themselves from the programme selection committee. Surely this would lead to anarchy and marginalisation of the administration. All the above demands go on to show that what students want is complete control of the college's finances, and of its social, moral and academic atmosphere. These are unreasonable demands and are virtually impossible to be conceded. (Flanigan 1974 : 17).

The above paragraph reveals the development of a single idea, that is, concerning the unreasonableness of the demand *of* the student's representatives, and this line of development, without any digressions, provides the paragraph its unity.

c) Coherence in the Paragraph

A paragraph reads smoothly if it is coherent. There should be a clear relation between sentences. This involves the idea *of* connectedness across sentences. Coherence is the way sentences in a paragraph, or even the way paragraphs in an entire composition, get linked together. The linguistic elements that perform the function of linkage are said to be the means or feature of coherence. The generally recognisable features of coherence are transitional words and phrases, anaphoric relations, and rhetorical strategies consisting of elements such as repetition, parallel structure, question and answer, contrast, etc.

d) Transitional Words and Phrases

These are the devices of coherence which indicate relationships by direct linkage and by signaling the direction in which the thought is moving. In the paragraph below the connecting links have been underlined:

I believe that the disestablishment of the school has become inevitable and that this end of an illusion should fill us with hope. *But* I also believe that the end of the "age of schooling" could usher in the epoch of the global schoolhouse that would be distinguishable only in name from a global warehouse or global prison in which education, correction and adjustment become synonymous. *i therefore* believe that the breakdown of the school forces us to look beyond its imminent demise and to face fundamental alternatives in education. *Either* we can work for fearsome and potent new educational devices that teach about a world which progressively becomes more and forbidding for man, *or* we can set the conditions for a new era in which technology would be used to make society more simple and transparent, so that all men can once again know the facts and use the tools that shape their lives. *In short*, we can disestablish schools or we can have deschool culture. (Ivan Illich: ‘The Alternative to Schooling’)

It can be seen that the above passage relies heavily for its coherence on transitional words like *and*, *or*, *but*, *either*, and a transitional phrase *in short*. In other paragraphs phrases and words such as *to illustrate*, *for example*, *that is*, *namely*, *thus*, etc. function to introduce illustrations. Contrasts or alternatives are signalled by expressions such as *by contrast*, *on the contrary*, *on the other hand*, *conversely*, *however*, *but*, *nevertheless*, *or*, *nor*, *instead*, *still*, etc. Additions in the discussions are made by the features like *in addition*, *in the second place*, *second*, *next*, *furthermore*, *further*, *similarly*, *moreover*, *too*, *also*, *again*, *finally*, *and*, etc. Result or conclusion can be signalled by forms such as *a result*, *in conclusion*, *in their words*, *to sum up*, *for this reason*, *consequently*, *therefore*, *thus*, *so*, *hence*,



etc. Such features help to connect sentences and even paragraphs, together.

e) **Anaphoric Relations**

Anaphora is a term used in grammatical description of a linguistic unit referring back to some previously expressed unit or meaning. Generally, pronouns are used to refer to already existing antecedents in the discourse. Look at the brief paragraph below with the anaphoric words underlined:

(1) Armstrong made only a small step from where *he* was standing, on part of the outside of *his* moon-landing vehicle, on to the actual surface of the moon, (2) But *it* was a 'giant leap' for mankind, (3) *He* was the first representative of mankind to set foot on the moon, (4) *His* feet had last trodden ground back on *his*' own planet, the earth, 2,33,000 miles away, (5) A giant leap indeed. (D. Y. Morgan: 'Man Reaches the Moon').

Hence, the pronoun forms *it*, *he* and *his* in sentences 2,3, and 4 function. to link the sentences together. While the *it* refers back to Armstrong's 'small step' in sentence 1, *he* and *his* refer back to the proper noun Armstrong. This is a major way of enmeshing sentences into each other.

f) **Rhetorical Devices**

Sentences get linked into a paragraph, and paragraphs may also get linked to one another, by the use of rhetorical devices such as repetition, paralld structure, question and answer, etc. Consider the paragraph below with sentence numbers given in brackets:

(1) But nevertheless the uneasiness remained and became more and more evident in our books, our painting, our music and even the new directions of our medical sciences.

(2) Who were we in this strange new world ? (3) What part did we play in it ?

(4) Someone had written a new equation somewhere, pushed the doors of ignorance back a little, entered the darkened room of knowledge by one more step. (5) Someone else had formed a way to make use of that new knowledge and put it to work. (6) Our lives had changed but without *our* changing them or without our intending them to change. (7) Improvements had appeared and we had accepted them. (8) We had bought Mr. Ford's machines by the hundreds of thousands. (9) We had ordered radios by the millions and then installed TVs. (10) And now we took to the air, fly from city to city, from continent to continent, from climate to climate, following summer up and down the earth like birds. (11) We were now men in a new world ... but a world we had not made --had not, at least, intended to make. (Archibald Mac Leish: "The Great American Frustration ")

The above paragraph reveals some rhetorical strategies that bind the sentences together. Repetition and parallel structures can be seen almost throughout the paragraph. Sentences (2) and (3) reveal repetition of question forms which function to link the two sentences together for emphasis. Sentences (4) and (5) have parallel beginnings which serve to link the two sentences together. Sentences (8), (9) (10) and (11) have a common subject and a somewhat 'parallel structure which functions to enmesh the four sentences. Repetitions also occur within the sentences, and similar kinds of repetition across sentences also build sentences together, e.g., sentences (7) and (8) have similar kind of repetition for emphasis inbuilt in the respective sentences.

Thus, rhetorical devices also function to link sentences together in a paragraph.

g) **Logical Organisation and Adequate Development of Supporting Material**

The paragraph may have a topic sentence, unity and coherence but it also needs logical organisation. This means that support material should be carefully arranged. In the Developmental paragraph I (Section 6.3.2) the controlling sentence is that the student spokesmen are often unreasonable in their demands. The supporting material is provided one after the other, all intending to prove the point that the demands are unreasonable.

The adequate development of the paragraph is a product of the linkage of the supporting material. The three supporting materials of the topic statement are each followed by the recognition of the negative effect of the demands. Hence, the demands are made to look unreasonable. The full circularity of idea with the supporting material makes the development of the paragraph quite adequate.

h) Concluding Statement

The concluding statement of a paragraph functions not only to repeat the topic statement but also to emphasize it. For example, consider the last sentences of Developmental paragraph I (Section 6.3.2)

"These are unreasonable demands and are virtually impossible to be conceded".

This sentence not only repeats the topic statement (discussed earlier) about the unreasonableness of the demands made by the students' spokesmen but also emphasizes it by adding that virtually the demands cannot be met.

6.3.3 Transitional Paragraphs

Transitional paragraphs can be formed between two Developmental Paragraphs. This involves the topic sentence of one paragraph which at the same time refers to the concluding statement of the previous paragraph, thereby reiterating the first paragraph's main idea giving the gist of the second paragraph. Let us construct a probable transitional paragraph between the concluding statement of Developmental paragraph I (Section 6.3.2) and the topic sentence of Developmental paragraph II (Section 6.3.4).

Concluding statement	Developmental Paragraph I These are unreasonable demands and are virtually impossible to be conceded.
Transitional paragraph	The crux of the problem is that the demands put forward by the students' spokesmen are not only unreasonable but also that they tend to become impatient in the negotiation of their demands. This appears to make all political compromise a mirage.
Topic sentence	Student spokesmen often have been found to be too impatient in negotiating their terms. Developmental paragraph II

The transitional paragraph functions as a smooth connective between two developmental paragraphs.

6.3.4 Concluding Paragraph

The concluding paragraph to a composition has essentially the same function as a concluding statement to a paragraph. Whereas the concluding statement to a paragraph repeats the controlling idea of the paragraph and adds emphasis and finality, the concluding paragraph emphatically sums up the major ideas of the thesis that support the compositions, restates the focus and provides a note of conviction and finality. Just as the introductory paragraph is important in making a first impression, the concluding paragraph is important in making a lasting impression. Let us look at a probable concluding paragraph for the composition 'Political compromise in the college':

'The headlines of the papers tell the whole story:
 "STUDENTS DEMAND ADMINISTRATORS NEGOTIATE NOW";
 "DEAN SAYS STUDENTS DEMANDS OUTRAGEOUS";
 "STUDENTS OCCUPY DEAN'S OFFICE";
 "STUDENTS AND ADMINISTRATION DEADLOCKED". And on it goes,
 "STUDENTS REFUSE TO COMPROMISE", and this is the picture of the political compromise in the college.



The concluding paragraph is a kind of emphatic restatement of the main idea of the thesis. It also attempts at making a memorable impression by trying to represent the same idea by quoting the headlines of the newspapers.

Finally, in concluding paragraphs you should avoid statements such as "As you can see from the above ...", or "Having proved my point ...", etc. Such statements are worn out and are irritating to the reader. You have to be courteous to your reader's intelligence. Further, avoid introducing a new idea in the concluding paragraph of the composition.

Self Check Exercise

- 3) Define a paragraph and name its kinds.
- 4) What are the characteristics of a well written developmental paragraph.

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.

6.4 FORMS OF DISCOURSE

Generally exposition, narration, description and argumentation are considered to be the basic forms of discourse. Each of these represents a shifting concern on the part of a writer. When a writer is concerned with setting forth facts then the form is known as *exposition*, when he presents them in terms of temporal action then the form is *narration*, and in terms of space it is *description*, and when he intends to resolve the conflict of facts then it is known as *argumentation*. These forms do not exist as pure forms; they, in fact, are intermixed and one can only talk about a dominant form. Let us look at the dominant forms separately.

6.4.1 Expository Discourse

Expository writings are probably the most common form of writing. It can be seen in the description of competing theories, in economic interpretations, in critical aspects of literary texts, in the operation of scientific procedures, etc. Expository writing has the overall purpose of explaining, although one may explain by setting down facts, or by telling about an incident, or by describing how something works, or still by reasoning.



Central to expository writing are grouping, classification and definition. While grouping is a pattern of order based on selection, classification involves breaking down of a broad topic into parts. In contrast to these, definition sets limits or boundaries, or points out the characteristics that distinguish the thing under discussion from others.

Grouping and classification can be observed in the paragraph below:

Lenin with whom I had long conversation in Moscow in 1920, was, superficially, very unlike Gladstone, and yet, allowing for the difference of time and place. To begin with the differences : Lenin was cruel, which Gladstone was not; Lenin had no respect for tradition, whereas Gladstone had a great deal; Lenin considered all means legitimate for securing the victory of his party, whereas for Gladstone politics was a game with certain rules that must be observed. All these differences, to my mind, are to the advantage of Gladstone, and accordingly Gladstone on the whole had beneficent effects, while Lenin's effects were disastrous. In spite of all these dissimilarities, however, the points of resemblance were quite as profound. Lenin supposed himself to be an atheist, but in this he was mistaken. He thought that the world was governed by the dialectic, whose instrument he was; just as much as Gladstone, he conceived of himself as the human agent of a superhuman Power. His ruthlessness and unscrupulousness were only as to means, not as to ends; he would not have been writing to purchase personal power at the expense of apostasy. Both men derived their personal force from this unshakable conviction of their own rectitude. Both men in support of their respective faiths, ventured into realms in which, from ignorance, they could only cover themselves with ridicule - Gladstone in Biblical criticism, Lenin in Philosophy.

(Bertrand Russell: *"Eminent Men I Have Known"*)

In the above paragraph you can see opposing and similar ideas grouped separately to represent qualities of Lenin and Gladstone. The groupings, it is also clear, are classified into qualities of Lenin and Gladstone.

Definitions are one of the purest forms of exposition because their purpose is to explain. They answer the basic question "What is it?" or "What does it mean?" A definition can be used to explain a word in a sentence, but usually it is used to interrupt the development of thought in order to define something for the reader. For example, see the passage below:

Psychiatrists are not alone, of course, in their failure to comprehend the nature and the importance of the adversary process. A word of explanation about what I mean when I use the term is in order here. The adversary process is the central feature of the system of legal institutions and procedures set up by our society to resolve controversies that arise between contending interests, values and ideologies. The adversary - to use the word in its old dictionary meaning - is supplied not by the process but by the parties to the conflict; the adversary process is merely the decisional mechanism for resolving their conflict.

(David L. Bazelon : *"Psychiatrists and the Adversary Process"*).

The third sentence in the above passage is in the form of a definition which interrupts the normal flow of thought to classify the expression 'adversary process'.

6.4.2 Narrative Discourse

Narration depends chiefly on temporal order, i.e., upon actions in a chronological order at the level of time. The chronological order involves a sequencing of events or actions from beginning to end. A skilled narrator is able to arrange the details in such a way so that a reader's interest rises to a climax at some point in the narration. The narration, in turn, can range from story telling, as in novels and short stories, to anecdotes used for illustration, explanation or support. Look at the narrative elements in the passage below:



On May 21, late in the afternoon, a 1-year old schoolboy, the son of a Chicago millionaire real-estate man, stopped on his way home to watch a ball game. A car drove up and carried him away. The following day a special delivery letter assured the parents that the boy was safe and asked for a \$ 10,000 ransom, to be collected in work bills and put in a cigar box. The father duly obliged and drove off to the specified meeting place. Quite incredibly, he forgot the instructions about where he was to go, and he drove back home. It would have been too late anyway. That morning a labourer found the naked corpse of the boy near a railroad right-of-way. Nearby was a pair of shell-rimmed spectacles. They were the crucial clue that led to the arrest, and subsequent conviction, of two young men, both the sons of millionaires, both brilliant and already, at 19, both postgraduate students at the University of Chicago. In September the two men, Nathan Leopold, Jr., and Richard Loeb, were sentenced to life imprisonment.

(Alistair Cooke : "*Nineteen Twenty Four*").

The above passage clearly shows a progression of events sequentially and chronologically. Such is narration.

Sometimes, for special effects, etc. an author may begin his narration from the end and then through a process of *flashback* may return to the beginning and then give the full events till the end. The author may also begin in the middle of a chronological sequence, narrate events leading up to the point of narration and then proceed to complete the narration of events. The way of beginning in the middle of a sequence of events is called *in medias res*. Both the above kinds of presentation of events can generally be found in novels and films.

6.4.3 Descriptive Discourse

Description also involves narration, but of a different kind. It is a kind of picture-making, indicating what someone, something, or some place, etc. looks like. All descriptions involve spatial dimensions.

Any description would involve one of the two possibilities: either the description would proceed from a particular to the general, or, from the general to the particular. For example, a description of a painting could either begin with a central focus on a particular detail and then proceed to other things that relate to it giving us thereby a general picture, or, one could describe the picture in general terms and then focus on particular items within it. However, what is common to any kind of description is the spatial arrangement, i.e., the way things appear and the way they are arranged. It is analogous to the long shot, with diminishing distance leading to close-ups from various angles, and vice-versa, by a film camera. Carefully study the passage below:

Punctually at midday he opened his bag and spread out his professional equipment, which consisted of a dozen cowrie shells, a square piece of cloth with obscure mystic charts on it, a notebook, and a bundle of palmyra writing. His forehead was resplendent with sacred ash and vermillion, and his eyes sparkled with a sharp abnormal gleam which was really an outcome of a continual searching look for customers, but which his clients took to be a prophetic look and felt comforted. The power of his eyes was considerably enhanced by their position - placed as they were between the painted forehead and the dark whiskers which streamed down his cheeks; even a half-wit's eyes would sparkle in such a settling. To crown the effect he wound a saffron coloured turban around his head. This colour scheme never failed. People were attracted to him as bees are. attracted to cosmos or dahlia stalks. He sat under the boughs of a spreading tamarind tree which flanked a path running through the Town Hall Park. It was a remarkable place in many ways: a surging crowd was always moving up and down this narrow road morning till night. A variety of trades and occupations was represented all along its way: medicine sellers, sellers of stolen hardware and junk, magicians, and, above all, an auctioneer of cheap cloth, who created enough din all day to awake the whole town.

(R.K. Narayan : "*An Astrologer's Day*").



Here the narration begins with a close description of an astrologer and then goes on to describe the hustle and bustle of the place in general terms.

6.4.4 Argumentative Discourse

Argumentation implies dispute resulting from opposing positions. Any structure representing argumentation must take into account the pro-and-con nature of the argument. Argumentation can be done in three different ways. First, one can give one's own arguments by taking an affirmative position. Second, one can give further evidence to counter-balance the arguments of an opponent. And, third, one can point out the fallacies in one's opponents' arguments in order to discredit them. Strong argumentation, therefore, demands perceptive reasoning and careful perusal of evidence in order to present one's own arguments or in order to belittle the opponents' arguments.

The structure of an argument is shaped by the nature of reasoning. Reasoning, here, simply means moving from the basic propositions, through evidence, to a conclusion. There are two main directions of reasoning : *induction and deduction*. It should be noted that each of these approaches is usually used in combination with the strategies of narrating and explaining.

a) Inductive Reasoning

Inductive reasoning is a way of enabling us to make general statements from particular examples and evidence. It is therefore both a way of discovering and explaining. For example, if a teacher says "No one in my M.Lib previous class has failed" - the generalisation can be accepted to be true since it is based on the observation of all possible examples. Even the generalisations based on a high degree of probability are true; thus doctors prescribe medicines on the basis of high probability, etc.

Further, the structure of inductive reasoning can be perceived in one of the following ways: either the arguments are stated first followed by the conclusion, or, the conclusions are stated first followed by the arguments. Both are accepted modes of inductive reasoning. Consider an example cited in Gere. (1985 : 186):

Traffic

Six cars ahead of you are trying to turn left. Just before you get to the intersection, the light changes, and you have to wait for another whole cycle of lights. Downtown traffic congestion at any intersection with Bellevue's Northeast Eighth street, one of the busiest arterials in the state, is not unusual. It will likely worsen as the expansion of Bellevue Square attracts additional shoppers. Other smaller shopping areas are separated by one or more blocks from each other and from Bellevue Square. Most persons elect to drive their cars this distance, and the city studies show that one in four cars in downtown traffic is being moved from one parking lot to another.

The above passage reveals the process of induction. The author begins by looking at the actual traffic congestion, and, then he moves on to consider the causes of congestion, which are stated to be the expanding commercial areas and the dependence of people on automobiles for transportation. The progression from effect, i.e., traffic congestion, to its cause reveals inductive reasoning.

b) Deductive Reasoning

Deductive reasoning is a way of enabling us to draw inferences from one general statement. It also applies generalisations drawn from one instance to another related instance. Deduction, therefore, has predictive value if one statement is used to imply another related statement. Deductive reasoning is commonly perceived as a movement from the general to the particular, and it can also be viewed as a movement from one general statement to another general statement. The important thing, however, is that one of the generalisations must be prior to the conclusion and the two should be logically connected by certain terms. For example, if a film director, in your opinion, always produces excellent films, you can conclude that a new film advertised must also be good. You can reason from your generalisation about the director to the specific instance of the new film. The thinking process can be shown in the following way:



Satyajit Ray always directs excellent films.

Satyajit Ray has directed this film.

Therefore, this film must be excellent.

In all such cases the truth of the conclusion hinges on the truth of the general premise, and, the key to reasoning deductively is to determine the truth of your general premise. The following example cited by Gere (1985 : 187-88) illustrates deduction :

Apathy

In the recent ASUW election only 3,480 of the 36,000 students voted. This apathetic attitude disturbs the, and I consider it a threat to our campus as well as to the democratic freedom in this country. The most popular excuse for not voting is, "Well, my vote won't count anyway." People cling to this excuse because they feel that the most heavily endorsed people will automatically win. As a result of this apathy a few campus groups dominate the elections. In last Thursday's election, groups from the interfraternity council/Panhellenic, the northeast dormitories, and the south campus centre made their preferences known, and in most cases their candidates won. However, several of the endorsed winners had a very small margin of victory. Brian Macintosh, winner of BOC position 4, was only twelve votes ahead of the person in second place. If a few more people had voted, some of the other candidates could have been elected.

The above passage argues against apathy in campus elections. The low turnout is related to the idea that 'my vote won't count', which is further related to the idea that endorsed candidates win. The above three statements are related to one another in order to lead to the final deduction of general apathy towards elections among the people of the campus.

Self Check Exercise

5) What do you mean by

- (i) Expository discourse
- (ii) Narrative discourse
- (iii) Descriptive discourse
- (iv) Argumentative discourse

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.

6.5 RHETORIC OF LANGUAGE

English, like any other language, is a language in action. To know this functional language fully it is necessary to have a look at the language at different levels of its structural and functional organisation. To make the point more clear it may be stated that for studying functional English style in written discourse it is necessary to know



the language at the levels of sentence structure, word structure, expressive devices, and style. While a study of the sentence structure and word structure will give us an insight into the formal properties of the English language, the study of expressive devices and aspects of style will provide us an insight into the texture of the language.

6.5.1 Sentence Structure

The sentence is a formal unit that divides discourse into finite and separable parts. In speech it is signalled by a final juncture or pause, and in writing by beginning the words in a capital letter (if it is English) and ending them with a fullstop (punctuation mark). Meaning-wise, a sentence is an arrangement of words that makes a complete sense, and is acceptable to the speakers of the language. Grammatically, a sentence is a unit with a subject and a predicate that contains a finite verb as shown below:

Subject

Children

The children

The children of this block

Predicate

Play

play in the garden

are playing a match in the school ground today.

The subject refers to a person, place or thing about which something is said in the sentence. It may consist of one or more words. The predicate says something about the subject. It may consist of just a verb or a verb and some other elements. The normal word-order in English is subject + predicate. And since there can be no sentence without a verb, the smallest English sentence must have the structure subject + verb.

In grammar, sentences have generally been classified as simple, compound and complex, and while studying these forms you have to understand the principles of co-ordination and sub ordination. In addition, it is also necessary to recognise the notions of sentence length, cumulative sentences, periodic sentences, fragments, questions, passives, and balance and parallelism.

a) Simple Sentence

A simple sentence contains only one predicate. That means it can have only one finite verb. See the sentences below with the verb underlined:

They danced with joy.

The team played well.

Will you write it down?

b) Compound Sentence

When two or more sentences are joined together by a connecting word (conjunction) like *and*, *but*, *or*, etc. we get a compound sentence. See the compound sentences below with the conjunctions underlined:

George went for a walk but Sam stayed at home.

They reached the station and took a train for Bombay.

You must return the book or you must pay its price.

In the above sentences the conjunctions *but*, *and*, *or* join two sentences respectively, each consisting of a subject and a predicate.

c) Complex Sentence

A complex sentence combines one main clause and at least one sub ordinate or dependent clause. Consider the sentences below:

(1) He saw that the table was good

(2) They applauded enthusiastically when he sang a new song.

(3) There is nothing that this book can tell me which I do not already know.

All the above sentences consist of a main clause and a subordinate clause (sentence 3 has two subordinate clauses). The main clauses in sentences 1-3 respectively are *He saw*, *They applauded enthusiastically*, and *There is nothing*. Their respective subordinate clauses are *That this book can tell* plus *which I do not already know*. In all these cases you will notice that the main clause and the subordinate clause are joined together by connecting words like *that*, *when* and *which*, etc.



d) Co-ordination

You have already seen that co-ordination links sentences and other shorter units with conjunctions. Co-ordinating conjunctions, in fact, join words, phrases, clauses and complete sentences. The four main connectives express different relationships between the parts: *and* is the conjunction that joins in the sense of 'adding to'; *but* excludes or contrasts; *or* and *nor* provide alternatives. Some other words like *for*, *so* and *yet* are also used as co-ordinating conjunctions.

In writing, co-ordination tends to produce a loose prose style. Consider the passage below:

Out in the club the Epics, with four electric instruments going are playing "doing the dog", and Misty is doing the Dog, and Janet is doing the Mashed Potatoes, and Jerry Miller is doing the Monkey, with a few baroque emendations, but Marlene reflects a moment, as if upon her busy round of work with the churches, the benefit balls, the women groups and the youth.

(Tom Wolfe : *"The Peppermint Lounge Revisited"*)

Co-ordination in the above passage presents a string of thoughts together.

e) Sub ordination

Subordination predominates in writing because of the element of forethought attached to it. The subordinating conjunctions not only introduce dependent clauses but also define the relationship between the clause and the remaining sentence. Several categories suggest this range:

Cause : because, in, that, since

E.g. We will postpone the decision since we no longer have a quorum.

Condition : if, although, unless, whereas

E.g. Unless you keep the flame low, you run the risk of burning yourself.

*Manner*as, as though, as if

E.g. The soldiers, as if they knew the enemy was approaching, hid behind the bushes.

Result in order that, so that

E.g. I deliberately sent the tickets so that you may not miss the film.

Time after, before, since, until, then, when, while

E.g. Since his graduation he has been living in Delhi.

Another special category of subordinating words are the relative pronouns *who*, *whom*, *whose*, *which*, *that*, etc. The subordination in totality produces an element of complexity. In fact, subordination has also been viewed as an important feature that enables the writer to give emphasis to the complexity of thought, as in the example below:

Linguists are no different from any other people who spend more than nineteen hours a day pondering the complexities of grammar and its relationship to practically everything else in order to prove that language is so inordinately complicated that it is impossible in principle for people to talk. (R.W. Langacker: *Language and Its Structure*).

In the above example there is a main clause ("Linguists are no different from any other people"), a subordinating relative clause ("who spend ... else"), a subordinating adverbial clause ("in order to provide"), and two subordinating noun clauses ("that language is complicated" – and – "that it is ... to talk").

f) Sentence Length

Sentence length is an important feature of writing style. While long sentences can represent a ponderous style, short ones can represent a Racy one. Sentence lengths generate their own rhythmic movements. These rhythmic movements become significant when brought into contrast. For example, the contrast between long and short sentences is an effective way of making a point. Consider the passage:

The first and most evident of the conflicts is that between choosing, on the one hand, to publish whatever most easily interests the largest number of readers most quickly—that is to say, yellow journalism--and, on the other



hand, to provide, even at a commercial loss, an adequate supply of what the public will in the longer run need to know. This is responsible journalism.

(Walter Lippmann : ' *On the Importance of Being Free* ').

In the passage, the strength of the last short sentence following the longer one result from a rhythmic contrast. While the long sentence is ponderous, the shorter one is climactic and forceful one which makes the point.

g) Cumulative Sentences

A cumulative sentence is so grammatically constructed that its main thought is first state and then added to by other phrases and clauses. It is a loosely structured sentence often with parallel phrasing. Consider the passage below:

We would sit round the long shiny table, made of some very pale-coloured, hard wood, with sim goading, threatening, exhorting, sometimes joking, very occasionally praising, but always prodding, prodding away at one's mind to keep it up to the right pitch of concentration, as one might keep a sleepy person awake by sticking pins into him.

(George Orwell : *"Such, Such were the Joys"*).

In the above, the addition of various expressions to the main thoughts "we were sitting round a table" and "... sim goading ..." make the whole sentence a cumulative one. It produces an effect of informality because the additions tend to suggest the kind of thoughts that develop when we speak.

h) Periodic Sentences

A periodic sentence is grammatically constructed so that the main thought is suspended until the end of the sentence. Here one has to wait until the end for the meaning to emerge. Such sentences are generally short. See the example below:

It comes as a great shock to discover that the country which is your birth place and to which you owe your life and identity has not, in its whole system of reality, evolved any place for you.

(James Baldwin: *"The American Dream and the American Negro"*)

In the above example the subordinate clauses are so placed that the sentence is not synthetically complete till the end. Such sentences represent a kind of forward movement of thought.

i) Fragments

A fragment is a word or group of words short of a complete grammatical sentence. It is, however, punctuated like a sentence. Many a time fragments can be used effectively as transition devices. For example, see the expressions

To move them to a second argument.

And now for the implications.

A final point.

All the above can be used as transition sentences. Fragments can also be used to create emphasis as in the passage below:

The people were liberal, but that does not imply that they were permissive, disorderly or immoral. Quite the contrary.

The last sentence, here, is a fragment which functions to emphasize that the people were a positive lot.

j) Questions

The questions, or interrogative forms are commonly used for seeking information. These sentences, generally, begin either with a WH + word (such as *who, where, why, when, what*, etc.), as in the sentences



Who gave you the book?
Where are you going?
What happened at the meeting?, etc.

or these sentences begin with an auxiliary, as in sentences

Is he coming?
Are they studying?
Has he read the book?, etc.

In writing compositions the question form called the *rhetorical question* is significant. The rhetorical question is one to which no direct reply is expected. It is a device that makes us feel as if the issue is being weighed. Sometimes even an answer to such a question is not necessary, for it may function to focus on a problem. For example, while writing about Dylan Thomas, the poet, Richard Whittington-Egan stops at one point to ask

Was it really, then, all make believe? or was he a fringe alcoholic, stalwartly refusing to admit the fact even to himself?

(Richard Whittington-Egan: "*The Toss poet*").

These questions are not answered in the essay directly, for the author is only focusing on a problem.

The rhetorical question can also function as an argumentative device, if its answer appears to be self-evident. For example consider.

Who can argue on the side of poverty, or against justice, or against the idea of a Great Society?

(Norman Mailer : *Lyndon Johnson*).

The questions that Mailer raises need not be answered. The negative form of the sentences are clearly the answer. The question forms here are used to put forward arguments against the administration of Johnson.

k) **Passives**

In a passive sentence the subject and object are reversed by a change in the verb form. Consider the sentences below:

Active : The Chief guest will distribute the prizes.

Passive : The prizes will be distributed by the Chief guest.

In written compositions the transposition of the subject, or the doer of an action, and the object, or the receiver of an action, functions for stylistic effect. The difference in the sentences given above is basically one of emphasis, while in the active sentence the subject of the sentence is in focus, in the passive construction, on the other hand, it is the object that is under focus. It has been noticed that in newspaper reporting it is the object of the crime which is under focus when the agent is unknown:

The State Bank of India branch was robbed by an unidentified group of young men at 11:00 this morning.

In addition to emphasis, the passive constructions are often used in scientific and technical writings. Here the passives provide an impersonal tone, for the facts are of primary importance. For example, see the passage below:

Around 800 BC., a mineral was discovered in the town of Magnesia which had wondrous properties. This mineral was called MAGNETITE after the place of its origin. It attracted pieces of iron towards itself. Even stranger, a thin strip of this mineral always aligned itself in the same direction, if left to rotate freely.



For this property it was given the name, the LEADING STONE OR LODESTONE. Such materials were later found to be composed of oxides of iron (Fe_3O_4) and are now called magnets.

(*Science: A Textbook for Class VIII*, NCERT Delhi).

Here, the first two and the last two sentences are in the passive. While the initial two sentences function to give a historical detail, the last two function to show its naming and its chemical composition.

1) **Balance and Parallelism**

The terms balance and parallelism generally occur together because while 'balance' implies the principle of recurring pattern, parallelism refers to the similarity of structure. These two help generate a rhythm in composition. The expression given below reveals a rhythmic structure along with symmetry of from i.e., repetition of subject-verb pattern,

I came, I saw, I conquered.

Exact balance and parallelism heighten the effect. They also function to heighten memorability and effectiveness as in the example below:

The love of liberty is the love of others; the love of power is the love of ourselves.

(William Hazlitt: "*Political Essays*")

Balance and parallelism, essentially, add to the rhetorical quality of expressions.

6.5.2 **Word Structure**

Language essentially consists of words. The total stock of words of the English language, or of any language, is called lexicon. The total number of words in a language are never final. Along with the extension of the domains of human experience the words of a language also keep increasing. The new words and the new uses of old words are ways of showing the vitality and creativeness of its language users.

Word formation processes across languages show a great deal of regularity. Let us look at some of the basic processes by which new terms have been created in the English language. The new terms add to the communicative resources of the language.

a) **Coinage**

One of the least common processes of word formation in English is *Coinage*, i.e., the invention of totally new words. Words like *aspirin*, *nylon*, *kleenex*, and *xerox*, etc. were originally invented trade names which gradually became words of everyday language. Even poets like Shakespeare and Milton have given the language new words like *assassination* and *pandemonium*, etc.

b) **Borrowing**

One of the most common sources of new words in English is the process of borrowing, i.e., taking words from other languages. Throughout its history, English has borrowed a large number of words from other languages, some of which are mentioned below:

Words	Borrowed from
alcohol, coffee	Arabic
boomerang, kangaroo	Australian tribal languages
boss, buoy	Dutch
bourgeois; resume	French
wicket, wanderlust	German
academy, catastrophe	Greek
raja, thug,	Hindi
piano, confetti	Italian
lilac, turban	Persian
tundra, vampire	Russian



c) **Compounding**

Many words in English are formed by joining two separate words which produce a single form with a distinct meaning. This combining process is called compounding. Thus, in English there are words like *bookcase*, *fingerprint*, *sunburn*, *wallpaper*, *textbook*, *wastebasket*, *doorknob*, *henpeck*, and *handbook*, etc.

d) **Blending**

Sometimes in English two separate forms combine to form a single new word in such a way that the beginning of one word and the end of another word are joined together. This process is called blending. These forms are also called portmanteau words. Some of the long-established forms are *flare* (a combination of *flame* and *glare*), *glimmer* (*gleam* and *shimmer*), and *smash* (*smack* and *mash*). More recent forms are *motel* (*motor* and *hotel*), and *brunch* (*breakfast* and *lunch*). Presently, under the English Channel a tunnel is being constructed between England and France, and this is now being called *Chunnel*.

e) **Clipping**

The element of reduction which can be seen in blending is even more noticeable in the process called Clipping. This occurs when a word of more than one syllable is reduced to a shorter form in speech. The term '*advertisement*' is still in use but occurs much less frequently than the clipped form *ad*. Some other common examples are *gas* (*gasoline*), *fan* (*fanatic*), *Prof* (*Professor*), *lab* (*laboratory*), *flu* (*influenza*), *gym* (*gymnastic*) and *exam* (*examination*), etc.

f) **Backformation**

A very special kind of a reduction process is known as backformation. Here, typically a word of one type (usually a noun) is reduced to form another word of a different type (usually a verb). A good example of backformation is the process by which first the word *television* came into use and later the verb *televise* was created from it. Other examples of words created by this process are: *edit* (from *editor*), *donate* (from *donation*), *opt* (from *option*), *educate* (from *education*), and *enthuse* (from *enthusiasm*), and more recently *prioritise* (from *priority*).

g) **Conversion**

Whenever there is a change in the function of a word, for example, when a noun comes to be used as a verb (without any reduction), the process is known as conversion. A number of nouns, such as *paper*, *butter*, *bottle*, *vacation*, have come via the process of conversion, to be used as verbs, as can be seen in the sentences below:

He is *papering* the drawing room walls.

Have you *buttered* the toast?

We *bottled* the jam yesterday.

They are *vacationing* in Switzerland.

This process is quite productive in English. The conversions can involve verbs becoming nouns, with verbs like *guess*, *must* and *spy* becoming nouns as in *a guess*, *a must*, and *a spy*. Even adjectives, such as *dirty*, *empty*, *total*, *crazy* and *nasty*, can become verbs *to dirty*, *to empty*, *to total*, or the nouns *a crazy* and *a nasty*, etc.

h) **Acronyms**

When a new word is formed from the initial letters of a set of other words then the word formed is called an acronym. All acronym formations follow the rules of syllable formation of the language. In English the acronyms often consist of capital letters, as in NATO (for North Atlantic Treaty Organisation) or UNESCO (United Nations Educational Scientific and Cultural Organisation). At times the capitals have been lost to become everyday words such as *laser* ('light amplification by stimulated emission of radiation'), *radar* ('radio detecting and ranging'), and *scuba* ('self contained underwater breathing apparatus'), etc.

i) **Derivation**

The most common word-formation process in English is derivation. This process is accomplished by means of a large number of small bits called affixes. Whenever, the affixes are added to the beginning of a word (e.g., *un-*, *mis-*, *pre-*, etc.) these are called prefixes. The other affix forms which are added to the end of words (e.g., *-id*, *-ish* etc.) are called suffixes. Some examples are given below:



Prefix	Meaning	Example
bi-	two	bicycle
con-	with	concurrent
dis-	opposite of	distrust
in-	not	inapt
re-	again, back	reclaim
un-	not	unbeaten

Suffixes have a special place in the English language. They permit the change of a word from one grammatical class to another. Thus, the word *emotion* can be changed to adjective *emotional*, a verb *emotionalize*, adverb *emotionally* and nouns *emotionalist* and *emotionality* by adding the suffixes -al, -ize, -ly, -ist, and -ity, respectively. Some of the important suffixes that mark nouns, verbs, adjectives and adverbs are given below:

Suffixes marking nouns ist, -ity,	:	-acy, -age, -ance, -dom, -hood, -ism, - -ment, -ness, -tion, etc.
Suffixes marking verbs	:	-ate, -en, -fy, -ise
Suffixes marking adjectives -ar, -ble,	:	-able, -al, -ful, -ic, -ine, -ish, -less, -y, etc.
Suffixes marking adverbs:	:	-ally, -fold, -ly, -wise, etc.

j) **Multiple Processes**

Many a time it is possible to trace the operation of more than one process at work in the creation of a particular word. For example, the word *snowballed*, in the sentence *problems in writing the book have snowballed*, is a result of compounding the words *snow* and *ball* giving us the word *snowball*, which has further undergone 'conversion' to be used as a verb. Multiple processes can be seen to be at work in numerous ways.

6.5.3 Expressive Devices

A writer needs to know how words function in a language to create meaning.. There is no problem with words that have specific meanings or referents. For example, the word *fire* in its basic sense refers to our perception of burning and flame. Whether the word refers to the flame of a match, the burning of a log, or to the conflagration in a building, the core meaning of the word remains the same. This basic meaning of a word is commonly referred to as *denotation*.

a) **Synonyms**

There are words which are said to share a common denotation. Example, the words *opponent*, *antagonist*, and *adversary* have a similarity of meaning in certain contexts, though not in all contexts. For in a match of hockey two rival players can be termed opponents, but in a classroom they can be antagonists, while in a courtroom they can only be adversaries. However, all dictionaries and thesauri list synonyms. These are helpful guides in writing so long as you remind yourself that words also have subtle differences of meaning.

Further, words are also capable of operating in different contexts by *extension* without any loss of meaning. For example, the word *head* is a biological term, a part of the body of a living thing. However, its use can be extended to new contexts giving us expressions like "the head of a pin", "the head of a boil", "the head of a department", "a river's head", "the head word of a phrase", or "bringing matters to a head". In general terms, each of the above expressions has a carry-over meaning of 'something at the top', but the specific context in each case determines a more specific meaning-which does not allow us to mistake one for the other.

Meaning, therefore, depends on preciseness with which words are used, their arrangement, and in the total context in which we find them. In larger contexts words begin to acquire still more extended meanings.

Many effective writers change the denotative meanings of words by giving them additional, private, associations of meanings. The additional



associations of meanings that words have are referred to as *connotations*. Connotations are an essential fact of language, and they can neither be prevented nor ignored by a writer.

The connotations of some words are well known. For example, names of certain insects like fly, butterfly, mosquito, centipede, etc. can evoke additional associations of meaning. The fly may evoke the associations of peskiness, butterfly of beauty, mosquito of irritation and a centipede of, say, amusement. Many connotations are also similar, e.g., the associations of *fire* could refer to aspects of human temperament such as 'ordour', 'enthusiasm', or 'inspiration'.

In writings connoted meanings add to the depth of meaning as well as lend an air of freshness to the expressions. Some of the important ways in which words become connotative are by using figurative devices such as metaphor, simile, personification, paradox, oxymoron, synecdoche, metonymy, irony, hyperbole and pun.

b) Metaphor

Metaphor is one of the major sources of expressiveness in language.

Examples:

- (1) Time is money
- (2) The darkness swallowed them
- (3) The audience sat glued to their seats.

These are often used expressions and they are all metaphoric. While sentence 1 is suggestive of the value and preciousness of time, sentence 2 is suggestive of the expanse of darkness, and sentence 3 is expressive of the audience's great interest in whatever they are watching.

It can be seen from the above that metaphor is a process of comparison where one thing is described as being another, implying in the process a 'carrying over' of all the semantic associations. It is essentially analogic where we speak of 'X as if it were, Y'. Let us look at another example:

When forty winters shall besiege thy brow
And dig deep trenches in thy beauty's field ...

(Shakespeare: "*Sonnet II*").

In this metaphor time (forty years) is spoken of in terms of an invading army and aging is seen as besieging, 'deep trenches' are wrinkles and 'beauty's field' is the battle-field. The metaphor intends to express the idea that time is like an army for it weakens its opponent before full conquest, and, ageing is like besieging for the patient has no control over the external agency. In the metaphor the tension between the perception of similarities between time and army, ageing and besieging, and the youthful skin and battle-field give the metaphor a "double - vision".

Thus, all metaphors act by giving us two perspectives simultaneously. The richness of the metaphor resides in bringing the two frames of reference to bear upon one another.

c) Simile

Simile, like metaphor, involves the stating of one thing as another. In similes, unlike in the metaphors, comparisons are explicit for they contain words such as 'like' or 'as'. A common example would be :

The boy is behaving like a monkey.

In this simile the acts of the boy which may be like the antics of a monkey are under focus.

A more expressive simile is as below:

Beyond the river he saw a goods train winding out at Knightsbridge station, like a worm with a fiery head winding through darkness, obstinately and laboriously.

(J. Joyce: *Dubliners*).



This simile compares the train and its movement at night with that of an animate object the worm, with its useful movement. The simile is expressive of presenting the train in animate terms.

d) Personification

Personification is a figure of speech like the metaphor in which an inanimate object, a animate non-human, or an abstract quality or idea is given human attributes. It is particularly associated with poetry, e. g., see the lines by Gray:

Here rests the head upon the lap of Earth
A youth to Fortune and Fame unknown
Fair. Science frowned not on his humble birth,
And Melancholy marked him for her own.

(Thomas; Gray : *"Elegy written in a Country Churchyard"*).

Here, Earth, Fortune, Fame, Science and Melancholy are given human attributes.

Personification occurs in ordinary speech too. For example, we have the expressions

Time flies

Necessity is the mother of invention. The hands of a clock ..

The leg of the table

The mouth of a river ..., etc.

In each of the above human attributes are given to non-human and inanimate entities. Consider another example of expressive writing:

And all the little roofs of the village bow low, pitiful, beseeching, resigned ...

(D.H. Lawrence: *End of another Home Holiday*).

The roofs have been given human characteristics so much so that their physical condition is shown to arouse pity.

e) Oxymoron

It is a figure of rhetoric which juxtaposes apparently contradictory expressions for witty or striking effects. Milton in his *Paradise Lost* often uses oxymoron. Consider the forms: 'darkness visible', 'precious bane', 'splendid vassalage', and 'living death'. The expression 'darkness visible' suggests a vague, impalpable gloom which half conceals and half reveals objects and is sensed as a force of evil. It was a common belief that the flames of Hell emitted no light. 'Precious bane' literally means 'sweet poison', i.e., something which is enjoyable yet harmful, 'splendid vassalage' refers to hard liberty and easy yoke, that to obey is easier. Finally, 'living death' expresses a kind of life in death.

Oxymoron appears to be condensed paradox.

f) Paradox

A paradox is a statement which is apparently self-contradictory, a kind of expanded oxymoron. For example:

Heard melodies are sweet, but those unheard are sweeter:

(Keats: *"Ode to a Grecian Urn"*).

Here, "heard, melodies" and "those unheard" are almost opposite to each other. This is what makes the statement a paradox. Further, 'the apparent contradiction has to be resolved by the reader. The above paradox can be resolved if *unheard* can be taken to mean something *desired* to be heard. The paradox would then mean: While heard melodies are sweet those desired to be heard are sweeter –

In the same way one can see various other examples as well, as given below:



War is peace, Freedom is slavery, and Ignorance is knowledge.

(G. Orwell: *Nineteen Eighty Four* 1984).

g) **Metonymy**

Metonymy as a writing device involves the substitution of the name of a thing by the name of an attribute of it or of something closely associated with it, e.g., the words crown and Shakespeare often stand for 'monarchy' and the works of Shakespeare respectively. Metonymy is also very common in ordinary language, e.g., people often use phrases like the press, the stage, the White House for the newspapers, the theatre, and U.S. Presidency respectively. Each case of metonymy reveals a semantic shift from a noun to an object associated with the name.

In literary texts one of the ways for effective communication is the creation of new metonymy. Consider the lines below from a poem:

All perform their tragic play,
There struts Hamlet, there is Lear,
That's Ophelia, That Cordelia.

(W.B. Yeats: "*Lapis Lazuli*").

Here, the names Hamlet, Lear, Ophelia, Cordelia are from two of Shakespeare's tragic plays, viz. *Hamlet* and *King Lear*. These names in the poem function to represent the prototypes of everyman, that every person is in some sense a tragic figure.

h) **Synechdoche**

Synechdoche is a figure of speech in which a part is used to describe the whole of something or vice versa. As in metonymy, here too, the linguistic deviation involves the substitution of one item for another. Thus, *strings* would mean 'stringed instruments' (part for whole), or *India* means a sports team (whole for part) in a sentence like *India has won the World Cup*. In ordinary language synechdoche is often found in proverbs, e.g., the use of the word *hands* and *heads* in the expressions. *Many hands make light work* and *Two heads are better than one*, etc. Here, the words 'hands' and 'heads' are parts which in fact refer to abilities of *person*.

In creative writing a new synechdoche also enriches meaning. For example when Christopher Marlowe in his play *Dr Faustus* wrote:

Was this the face that launched
thousand ships

The word *face* raises associations, in the context of the play, of the beauty of Helen of Troy, which led ultimately to the war between the Trojans and the Greeks.

i) **Irony**

As a figure of speech irony consists of saying one thing while meaning its opposite in a particular context. For example, if one says *What a lovely weather!*, when the weather is bad, the statement is not to be taken literally, rather it means the opposite that the weather is very bad. In ordinary speech irony is often used, say, when you tell a person - Aren't you clever! - when obviously he isn't clever.

In writings irony also highlights the discrepancy or incongruity between what appears to be the case and what actually is the case. For example, consider the lines:

My name is Ozymandias, king of kings:
Look on my works, ye mighty and despair

(P. B. Shelley : "*Ozymandias*").

The above example is in the form of an inscription below the statue of Ozymandias. From the lines it appears as if Ozymandias wants everyone to look at him and his action, and be so impressed, that they should give up the hope of equalling him. The literal statement reveals a very proud man who wants to dwarf the achievements of others. The context of the poem tells us



that the statue now is lying in ruins in the desert sands. In the context the inscription now represents pride amongst the ruins, and it appears to be expressing the opposite of its literal meaning.

j) **Hyperbole**

Hyperbole, as a figure of speech, emphasizes something through exaggeration or over statement. It, however, should not be mistaken for telling lies because there is no intent] to deceive the listener. For example, if one says *thousands are feared to have perish z' in the cyclone* there surely can be a discrepancy in the numbers dead, however, the set of loss of life is aptly communicated by the hyperbole.

In creative writings hyperboles are used to express intense feelings many a time. Consider the example below:

I loved Ophelia: forty thousand brothers could not,
With all their quantity of love,
Make up my sum

(Shakespeare: *Hamlet*)

In this example the exaggeration lies in Hamlet claiming his love to be greater than the of forty thousand brothers'. In fact, Hamlet wants to convey, through the hyperbole, that his love for Ophelia is infinite, that it cannot be compared to anyone else's, not eve to a brother's.

k) **Pun**

Pun is a form of word-play exploiting ambiguity of word meaning. In other words i involves the use of polysemous words to suggest two or more meanings, or the use o homonyms i.e., different words which sound the same but which have different meanings The whole point of a pun is the user's intent to produce a humorous or witty effect from the juxtaposition of meanings. Thus, puns commonly occur in jokes, e.g.:

Q : How do you get down from elephants?

A : You don't, you get it from ducks.

The pun, here, is on the word *down* which functions as a preposition in the question, and is referred to as a noun by replacing it with a pronoun *it* (meaning 'soft feathers').

One often finds puns in drama texts. Here is an example from Shakespeare's play *Othello*:

Cassio : Dost thou hear my honest friend?

Clown : No, I hear not your honest friend, I hear you.

In this dialogue the Clown is deliberately punning on the word *hear*. While Cassio uses the expression "my honest friend" in opposition to "thou", the Clown deliberately makes it the object of the verb "hear".

6.5.4 Aspects of Functional English Style

It is often said that style is "proper words in proper places". The definition implies that context determines what is suitable. It is the context that forces a writer to use language systematically. A society reveals various kinds of language forms, and a context will force us to make choices of a particular kind. For example, style has generally been identified in terms of the levels of formality in society -- choice of a level would force us to choose words and expressions appropriate to that level. Consider the following examples with crucial words underlined:

The gentlemen *hastened* from the room.

The boy *hurried* home from the market.

"Take the loot and *scram*", shouted the robber to his henchmen.

The above three sentences reveal words expressing *haste* according to the varying levels of formality. While *hastened* reveals a formal or a high style, *hurried* reveals a



middle or a more normal style, and *scram* colloquial, casual or a low style. All the three words form a set of synonyms, though they can be arranged on a scale of formality, from the formal and learned style to the colloquial or low style at the most informal level. Writers, since ancient times, have been conscious of the connotation of formality, i.e., they adapted their writing to the subject on hand or to the kind of literature they were writing. For example, they used the "high" for formal style for writing epics and tragedy and for formal speeches, and the "low" or colloquial style for writing farcical comedies and in their speech to ordinary people. The middle style was the basic language of satire and of expository prose. This kind of distinction is still useful for the study of functional style. Broadly, the casual and the informal could be clubbed to give a colloquial style while the formal and the frozen both imply a formal use of language style. Thus, it would not be out of place to divide synonymous expressions into three major stylistic levels. Let us look at some examples at different style levels (Table 1).

Formal/Learned style	Middle style	Colloquial style
hasten	hurry	scram
intrepid	courageous	plucky
valiant	brave	gutsy
pedagogue	instructor	teacher
peruse	study	grind
astutely	shrewdly	slickly
arduous	difficult	tough

Table 1 : Three Major Stylistic Levels.

(Adapted from Newman 1989: 268).

By being conscious of the different levels of style you can control much of the tone in your writing. Let us look at what more choices lead you to.

a) The Formal Style

A *formal* style is for special occasions. It is appropriate for some essays, answers to essay questions, formal reports, and research papers. It uses words and structures that rarely appear in conversation, and its sentences are often more elaborate and longer than those of informal writing. Since contractions and slang rarely appear in informal English, it is also commonly termed as "refined" language. It is generally marked by the use of jargon and Euphemisms.

Jargon is the specialized language of occupations and of the different subjects of inquiry. For example, to a car mechanic the words such as *differential*, *hoes* and *kingpin* have special meanings; for a literary scholar the words *synechdoche*, *metonymy*, *paradox* have specialised meanings, etc. For someone interested in computer science words such as *hardware*, *software*, *file*, *document*, etc. have subject-specific meanings.

When jargon or technical language is used in its own proper domain it makes communication very effective and precise, but if it is extended to other domains, it makes writing more difficult for the average reader to understand. For example, if someone says or writes to a non-specialist: "Your use of *synechdoche* is very effective". The sentence can be understood only by a person who is familiar with the term, otherwise the sentence can be at the border of incomprehensibility. Thus, specialised vocabulary should be used in writings for the people working in the particular area. Such terminology should be avoided in situations where readers are unlikely to be familiar with it.

Formal styles are also marked by euphemistic expressions. Euphemisms, in fact, try to soften by distorting a particular fact by using less specific expressions. For example, a "death" is termed as "passing away" or "sad demise", or taking no political decision on some issue could be expressed as "under consideration".

As a writer you should avoid euphemisms which distort the truth. However, there are many occasions when euphemisms are in order, e.g., if a child is 'horribly burnt and scarred' by fire you may instead use the term "disfigured". Euphemistic expressions born out of the sensitivity for the subject are very effective.



It may be said that formal style is a style for specific occasions using a specific kb of language which is somewhat uncommon. Let us consider the following letter (cit(from Gere 1985: 293) :

Dear Sir,

I wish to bring to your attention the fact that my performance has improved immeasurab in terms of increased contract production and unique customer generation. Therefor in the interest of fairness, I request an appropriate monetary reward.

faithfully

Joe Humble.

The above letter is in a formal style. The elaborate expressions 'Performance hr improved immeasurably' in terms of increased contract production and unique custom(generation, 'in the interest of fairness' and 'appropriate monetary reward', reveal language used objectively in an office environment.

b) **Middle Style**

The middle or the informal style is what most educated people use for communicatin with people other than personal friends. It is the language of magazines, newspaper, most books, and business letters. It is, in fact, a style intended for general audience; The middle or informal style of English is less rigid in rules and forms than its forme counterpart. Some contracted forms and slang do appear in this style. Sentences ar generally complete, though they vary in length, and sound more conversational than th impersonal tone of formal writing. Consider the example below:

The full Moon and some dynamic aspects could make the 8th some sort of blockbuster day - and not all lolilops and roses, either! Most importantly, handle your close relationships with kid gloves, and don't allow wishful thinking or self deception to sway your judgement and plans.

(From *Leo : Your 1993 Horoscope*. Dell Purse Books).

The above passage reveals a middle or informal style of communication for a genera audience. The sentences here are complete, unlike as in the colloquial or casual style However, there are colloquial expressions in the passage also, such as "not all lolilop and roses" and "kidgloves", which are generally not found in formal styles.

Consider the letter below in the middle style (cited in Gere 1985 : 294), a counterpat of the formal letter discussed earlier:

Dear Mr. Jones:

I think I've done a good job during the past six months. I've filled more contracts that ever before, and I've brought more new customers to the company than anyone else it the division has. I would appreciate a raise.

Sincerely

Joe Humble.

The above letter in the middle informal style has some peculiar features. First, like the formal style the sentences are complete. Second, the formal "Dear sir" has been replaced by the less formal "Dear Mr. Jones". The letter is more personal in tone than the formal one. While the formal letter was more elaborate in 'wishing' to capture the attention of the addressee to the writer's performance, and 'requesting' for an increase in salary, the middle is more direct with the writer expressing his own thoughts regarding his own performance and desiring ("I would appreciate") a raise in salary.

c) **Low, Colloquial or Casual Style**

Low, casual or colloquial style is a very personal style that is used amongst equals who are also friends, or near or dear ones. This style is marked by the use of slang expressions, frequent contractions and cliches. Casual writing



often becomes incomprehensible to someone who is not familiar with the context of writing. "In a minute" may make no sense to the general reader but is clear explanation to students when a teacher says so and leaves a tutorial group.

Slang and colloquial expressions are those which are often spoken in ordinary conversation but are not used in informal and formal writing. Such words when chosen in writing function to give a flavour of the colloquial style. For example, if a person writes "He ain't go in". This is the colloquial form of "He is not going" as used by some people.

Contractions involve shortening of word and/or sentence forms. In casual/colloquial speech questions and answers are generally not elaborate.

Example:

John : Coming ?
Sam : No.

In the same way words are also often contracted, e.g., *I am* is used for *I am*, *You're* for *you are* and *you've* for *you have*, etc. Cliches are familiar phrases and dead metaphors that are often used in casual writing and speech. These are expressions which have been heard many times. See the following:

- a tempest in a teapot
- beat a hasty retreat
- a gala time
- cool as a cucumber
- beyond the shadow of a doubt
- from the frying pan into the fire, etc.

All the above expressions have common, fixed meanings.

Let us look at a written letter in the colloquial style, which is a counterpart of the letters mentioned earlier under the formal and informal styles (cited in Gere 1985:294)

Frank -

The way I figure it, I'm about the best you've got in this company. I'm hustling contracts and pulling in customers like crazy. How about crossing my palm with a little more coin next month?

Joe.

In the above example, the formal address like "Dear Sir" or "Dear Mr. Jones" is replaced just by a first name "Frank". First names are always used amongst familiar friends in common circumstances. Expressions like *hustling contracts*, *pulling in customers like crazy*, *crossing my palm*, and *little more coin* are usages of slang. The expression *The way I figure it* is a cliché, and the forms *I'm* and *You've* are cases of contraction. Finally, the word "sincerely" in the salutation has been dropped. This makes the letter appear absolutely colloquial and casual.

Self Check Exercise

6) Write down the importance of various levels to make the English language functional.

Note:

- i) Write your answer in the space given below.
- ii) Check your answer with the answers given at the end of this Unit.



6.6 SUMMARY

In this Unit we have viewed Functional English Style particularly in relation to good and effective writing. We have seen that a writing process involves an understanding of the structure of a composition. This involves a knowledge of the sequence of

- selection and then delimitation of a topic,
- providing a thesis statement, and
- providing the opening, developmental, transitional and concluding paragraphs.

While writing paragraphs the sentences and arguments must be coherent and inter-related, and there are devices to achieve the same.

You have also learnt about different forms of writing, namely, expository, narrative, descriptive and argumentative. For making writings effective the unit has also focused attention on some aspects of

- sentence structure,
- word structure,
- expressive devices, and
- functional style.

6.7 ANSWERS TO SELF CHECK EXERCISES

- 1) The writing process involves the following steps such as (a) Selection of topic (b) Limiting the topic (c) Thesis statement (d) Developing the form of the Thesis.
- 2) The various forms which outline the composition of a selected topic are (1) Title (2) Introduction (3) Area I (4) Area II (5) Area III (6) Conclusion.
- 3) Paragraph is a way to divide continuous discourse into limits of convenient segments to make it meaningful and readable. Generally there are four kinds of paragraphs: introductory, developmental, transitional and concluding.
- 4) A well written developmental paragraph has the following characteristics:
 - i) Topic sentence
 - ii) Unity
 - iii) Coherence
 - iv) Logical organisation
 - v) Concluding statement
- 5) Expository discourse allows a writer to be concerned with setting forth facts whereas in narrative discourse he presents them in terms of temporal action and it is in terms of space is known as descriptive discourse. When the writer *intends* to resolve the conflict of facts is considered as argumentative discourse.



- 6) To make the English language functional there are various levels such as sentence structure, word structure, expressive devices and style. The importance of the sentence structure and word structure gives us an insight into the formal properties of the English language. Whereas the expressive devices and style provide us an insight into the texture of the language.

6.8 KEY WORDS

Dialect	:	A variety of a language, spoken in one part of a country, which is different in some words, grammar or pronunciation from other forms of the same language.
Ethnic	:	Related to a racial, national or tribal group.
Euphemism	:	The use of a pleasanter, less direct name for something thought to be unpleasant.
Parallelism	:	The state or quality of being parallel.
Phythmic	:	The quality of happening at regular periods of time.
Psychiatrist	:	A doctor trained in the study and treatment of diseases of the mind.
Rhetoric	:	The art of speaking or writing that sounds fine.
Transparent	:	Clear, easily understood, about which there is no doubt, certain.

6.9 REFERENCES AND FURTHER READING

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UNIT 7 READABILITY AND TEXT

Structure

- 7.0 Objectives
- 7.1 Introduction
- 7.2 What is Readability?
- 7.3 Reader and Text Factors in Readability
 - 7.3.1 Readers Factors
 - 7.3.2 Text Factors
- 7.4 Readability and Comprehension
- 7.5 Readability Formulae
- 7.6 Summary
- 7.7 Answers to Self Check Exercises
- 7.8 Key Words
- 7.9 References and Further Reading

7.0 OBJECTIVES

After reading this Unit you will be able to:

- know the various factors which make a text readable;
- direct the users of the library, especially children and students, to the right kinds of books suitable for their age and cognitive level;
- write the abstracts of books or reports of various kinds; and
- improve your abilities due to awareness of readability factors.

7.1 INTRODUCTION

Traditionally, the role of a librarian has been merely to acquire, store and organise books (or related material) in such a way so as to facilitate readers' access to those books. This might still hold true in special Research Libraries. However, in Academic and Public Libraries, which are used by school children and college students, the librarian's job becomes much more demanding. In school libraries, the librarian (along with the teachers) may have to direct the children to books suitable to their age and cognitive level. Even in undergraduate college libraries, a good librarian may suggest that book X on a topic is better than book Y on the same topic. In other words, it is the librarian's job to evaluate the readability of books.

Self Check Exercise

1) A librarian's job is not merely to acquire, store and organise books, but much more. Read this section again before you elaborate this point.

Note:

- i) Write your answer in the space given below.
- ii) Check your answer with the answers given at the end of this Unit.



7.2 WHAT IS READABILITY?

We often come across people saying that book X is more readable than book Y, even when the two books contain the same subject matter. While they probably say this because of an intuitive feeling, but if you were to prod them a little bit to give some reasons, they may say:

- there are more "hard" words in book Y than X.
- there are longer and "involved" sentences in book Y.
- the print could be larger in book Y.
- the concepts are better organised in book X.

And if it were a child comparing the two books, she/he may say:

- book X has more pictures than book Y.

In fact, readability level of a book is based on just these criteria, and we shall discuss them in more detail in this Unit and formalise them.

Activity 1

We have listed some of the features which make a book more readable. Can you list some others?

7.3 READER AND TEXT FACTORS IN READABILITY

The readability of a book basically refers to those features of a text which make it accessible/ difficult to the reader. The central focus, therefore, is on the text rather than on the reader. But because the reading act is a function of both the text and the reader, the assessment of the readability of texts and the reading performance of readers are closely related.

Therefore, when we ask a question such as, 'What makes book X more readable than book Y?' we have to take into account two factors - one related to the reader's own knowledge and ability, and the other related to the text itself.

7.3.1 Readers Factors

The first factor which would tell us how well a reader can cope with a passage is her/his overall reading ability. This is often, though not always, related to her/his reading age. 'Reading age' is a technical term, which refers to the average reading ability of a certain age group. Thus a ten year old child should have reached a certain reading level, which is at par with other ten year old children.



Another important aspect is reader's interest of reader's motivation. A reader who is very interested in a particular topic will often go through a very difficult book. Many teachers have had the experience of seeing a student who had hitherto been a weak reader, suddenly become interested in a subject, and then read a rather difficult book.

Activity 2

Besides the two reader factors mentioned in this section of the Unit, can you think of any other reader factors which may affect the readability level of texts? Discuss the points that occur to you with your Counsellors.

7.3.2 Text Factors

The primary objectives of readability research are to find out those features of language structure and discourse organisation which identify the difficulties the readers encounter in acquiring the knowledge contained in their books. Harrison (1980) suggests some broad criteria which influence the readability of a text. These include:

- legibility of print,
- illustration and colour,
- vocabulary,
- syntax, and
- conceptual difficulty.

Legibility:

The term legibility is used to refer to those aspects of typography which determine how readily the letters and words of the text will be deciphered. These include features such as size of type and type font used (i.e., the actual design of letters). It also includes layout features such as line length, size of margins, leading (the space between the lines and words), colour of paper and print and so on. Certain points which might be useful to remember especially in directing young children to books are given below.

- i) **Size of Type** - It is measured in terms of point size; a point is $1/72$ of an inch. For those who are beginning to read a point size in the range of 14 point to 18 point is most effective.

Example of 18 point

Jack and Jill,
Went up a Hill

Example of 14 point

Jack and Jill,
Went up a Hill



Type sizes in the range of 12 points to 14 points are recommended for seven to eight-year-old children.

Example of 12 point

Once there was a big brown dog named Sharu.

For adults, the common sizes are ten, eleven and twelve point.

Example of 10 point

This is an example of ten point.

- ii) **Type Face** - It is available in three main styles - Roman (ordinary), Italic and Bold. Italic is the term used for light, sloping letters, and is normally used for foreign words, book titles, and sometimes for emphasis. It should not be used for long passages. The average person needs longer time to read a text in Italics than in Roman script.

Example: *Fun with Cursive Writing.*

Bold Type is a dark heavy type, and is normally used for headings or emphasis. If it is used for a complete text, the material will be legible, but unattractive.

Example:

Objectives:

Introduction.

- iii) **Upper and Lower Case** - Another important option is the choice of CAPITAL letters (known as upper case) or the more usual mixture (upper and lower case). We often find headings printed all in capitals, to give them importance. But why is it unusual to find a complete text printed in upper case characters? It is again due to legibility. An average person cannot read a passage all in capitals as fast as a passage in upper and lower case. This is because, there are no landmarks for our eyes to rest on, while upper and lower case characters have tops and tails as in d and p respectively which help the reader to recognize words more quickly.

- iv) **Arranging the Type** - Observations have shown that the eyes of readers do not follow the print smoothly along the line; rather, they proceed in jumps, with the eye resting on a focal point in each group of words. Therefore, a good arrangement of the text (layout) uses cues and devices to catch the eye most effectively.

A primary consideration in this regard is the line length; sixty characters to a line should be the maximum limit. However, too short lines would also be unacceptable in practice.

Another point which is worth noting concerns the use of unjustified typesetting. Normally, texts are left justified, i.e., each line normally starts at the same distance from the left of the page, so that a straight margin could be drawn alongside the letters. Texts may also be justified to the right of the page. Research has shown that readers who are beginners or slow readers are helped more if the right side is unjustified.

- v) **Colour of Paper and Ink** - The use of coloured inks or papers is difficult to evaluate in that, while it may increase motivation (because of the novelty) it could lower legibility. Most readers find a change from black and white pleasing, at least for a while, but technically, any colour of ink other than black, and any shade of paper other than white will lower the legibility of the print.

Finally, it would be unrealistic to expect any great gain in reading comprehension or speed as a result of more legible texts. However, a librarian must be aware that a less legible text will lower reader motivation, while a legible text will not turn a poor reader into a good one overnight.

Self Check Exercise

2) Fill in the blanks to complete the following sentences:



- i) A point size in the range of _____ to _____ is the most effective for those who are beginning to read.
- ii) It is not advisable to use _____ and _____ typeface for readability of a text.
- iii) An average reader prefers to read a text which has a mixture of upper and lower case characters because _____.
- iv) Beginners and slow readers prefer it if the _____ is unjustified.
- v) _____ ink and _____ paper are best for legibility of a text.

Note:

- i) Write your answers in the space given below.
- ii) Check your answer with the answers given at the end of this Unit.

Illustration: As we all know, children enjoy books which contain pictures, and in fact, interesting and colourful pictures, are often a great motivating factor for them to read. This can be seen by the immense popularity of comics even among slower readers.

But, in general, how useful are the illustrations as an aid to readability? In many science text books diagrams and illustrations are usually an integral part of the text, but in some other subjects pictures could be counterproductive. Too many illustrations can distract the readers, who then recall less of the verbal content of the book. Also, if illustrations are not carefully selected, children as well as adults may well be confused.

Self Check Exercise

- 3) It is important to have lots of illustrations in a text. Comment on this statement.

Note:

- i) Write your answer in the space given below.
- ii) Check your answer with the answers given at the end of this Unit.



Vocabulary: Surveys of readers' opinions going back to the 1930s (for a review, see Chall, 1958) suggest that vocabulary plays a large part in whether a person finds a book readable or not. In fact, research studies have also found vocabulary to be the most important predictor of text difficulty.

There are many ways of describing or attempting to measure difficulty of vocabulary, and two of the most common are *word length* and *word frequency*. Word length is usually measured in letters per word or syllables per word. For example, look at the following words:

tiny, readability, vocabulary

Tiny consists of 4 letters and 2 syllables.

Vocabulary consists of 10 letters and 4 syllables.

Readability consists of 11 letters and 4 syllables.

So, in terms of the criteria of word length, *tiny* is the easiest word, while *readability* is the most difficult word.

As a general rule, longer words are difficult words. By and large, long words also tend to be more abstract in their meaning, which again makes the word more difficult. Therefore, when a child complains that there are too many 'hard' words in a text, she/he means that there are too many long, unfamiliar words for her/him in the text.

Word frequency is measured by how often a word tends to occur in ordinary usage. As you already know, the words which are used most frequently in a text are the structure words (function words) i.e., words such as *a, an, the, and, is, are, in, at*, and so on. These words bind other words together although they do not carry meanings in the same way as nouns and adjectives do. The popular lists that one may consult for word frequency in English are Thorndike's list of words in common use (Thorndike and Lorge, (1944) and Dale (1948) lists of 3,000 and 759 words. By looking into these lists, one may get a rough idea of the vocabulary load of a text.

Self Check Exercise

- 4) How many letters and syllables do the following words have? International, second, course, development, college.
- 5) What is meant by word length and word frequency?

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.



Syntax : Readability research has shown that long sentences make texts more difficult for readers to absorb. And, in fact, many of the readability formulae have been based on sentence length. This does not necessarily mean that the difficulty level is because of the length of the sentence. It may well be that sentence length is a crude indicator of sentence complexity, and it is the complexity, not the length that makes a text difficult. Before we proceed further let's have an idea of what constitutes *simple*, *compound* and *complex* sentences.

Example :

i) Rita is in London.

Simple sentence : contains a subject and a predicate

ii) Rita is in London and Ravi is there too.

Compound sentence : contain 2 (or more) sentences.

iii) Rita is in London because she likes it there.

Complex sentence : contains a main clause and one (or more) dependent clauses.

In fact, a passage is often difficult if it contains too many complex sentences. This puts too great a load on the short - term memory and information processing capacity of the reader. Let's look at this sentence from a school text book.

"Clinging to the rivers, which every year deposit a layer of fertile alluvium, these primitive peasants are living in village communities, witnessing in their calm tranquility the rise and fall of empires in the sprawling cities on the banks of the Ganga or the Jamuna".

Can you understand this sentence by reading it once? A normal reader cannot. A long sentence such as this, overfills the short term memory of the reader, and the information gets lost. As more and more words are crammed into a long sentence, the words we read at the beginning of the sentence are lost from the memory.

Scholars have pointed out certain kinds of difficulty related to syntax (the word order). Some of these problems are listed below, so that you may avoid them in your own writing.

i). **Active vs Passive Sentences –**

Active : The probe measured the internal diameter.

Passive : Measurement of the internal diameter was performed by the probe.

One of the most common areas of difficulty especially in scientific writing is the use of too many passive structures. However, it must be pointed out that passivization is a useful grammatical device, its main purpose is to provide emphasis, by bringing to the head of the sentence the thing acted on, rather than the thing doing the action. However, since readers absorb active sentences more easily than passive ones, passive structures should only be used when they serve a communicative function.

ii). **Nominalization of Verbs-** Nominalization is the habit of turning verbs into nouns, and this is a common feature in scientific writing.

Example:

The identification of the animals in the experiment is by battery operated devices. Wouldn't it be simpler to understand this sentence if we just said:

Battery operated devices *identified* the animals in the experiment.

Writing which continually uses nominalization, becomes tiring and flat; more effort is required to disentangle the structure, and the meaning often gets lost.



iii). **Modal Verbs-** Modal verbs such as *might*, *could*, *may* and *should* cause comprehension difficulties for poor and slow readers, and make recall from memory more difficult for fluent readers.

iv). **Clause Per Sentence-** If there are more clauses in a sentence, it often becomes difficult to understand it. Look at this sentence, again from a school text book, and see if you can understand it.

"From the layout and the strike of the mountain arcs along the Indo-Myanmar border and in north-western India, it may be inferred that the compressional force acted upon the wedge of the plateau in these extremities from the east and from the north-west; and that the compressional forces were directed towards the plateau over as vast an area as three-eighths of the compass affecting the whole northern edge of the subcontinent from the north-west to the east".

v). **Compression of Ideas** - A clause/sentence can also be difficult if it is too compressed and the reader has too few clues to reconstruct the intended message quickly and correctly. For instance, consider this sentence:

Repeat using the same quantities of this sulphate solution, distilled water and acid, and the same procedure as above, only first at 30°C, then at 40°C then at 50°C and finally at 60°C (example cited in Harrison, 1980)

The main clause *Repeat* is highly compressed, and it takes us awhile to understand that it means 'Repeat the previous experiment'. Also as the sentence is loaded with too much information, so as instruction to students, it is highly unsuitable.

However, we must point out here that syntactic complexity does not necessarily refer to flaws in the writer's writing ability, but rather it represents areas of difficulty for the reader. For instance, a writer might well need to express a complex thought using complex sentence structure; similarly she/he might need to make frequent use of modal auxiliary verbs, such as *might* and *could*. The point here is not that it is wrong to use these, but rather that poor readers find sentences containing them more difficult to understand.

Later developments in linguistics have pointed out that it is not merely syntactic complexity, but decoding of meaning and a large number of perceptual variables that play an important role in language processing. Therefore, syntactic complexity and conceptual difficulty are not independent of each other. In the next subsection, we will look at Conceptual Difficulty.

Self Check Exercise

6) Why are long sentences more difficult to process?

7) Change the underlined words from nouns to verbs.

The sentence structure may also change in the process.

i) The test substance is *corrosive*, therefore, spillage of the material on the skin must be avoided.

ii) ... using this thin wall material *a reduction* in costs would be obtained.

8) Read the example again "Clinging to the rivers, ...Ganga or the Yamuna". Now break it up into shorter and more comprehensible sentences.

Note:

i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.



Conceptual Difficulty : As mentioned in the earlier section, it is not vocabulary or syntactic complexity alone, which is responsible for difficulty of a text, but other variables as well. Readability analysts are now aware of the role of cohesion, coherence, idea density and conceptual difficulty of a given text.

Take the case of conceptual difficulty. We know the conceptual difficulty is closely related to vocabulary, as infrequent words are often more abstract. However, we may encounter phrases such as:

the green house effect
a black hole in space

Now, these phrases contain words which are frequently used, yet the concept may be understood only by science students. Therefore, while the lay reader does not face any difficulty with the words used, the concepts may be unfamiliar to her/him. However, there is a problem in assessing conceptual difficulty, in that there is no ready criteria for judging it reliably by mechanical tools of measurement. For example, is 'the green house effect' easier to understand than 'a black hole in space' by a lay person?

Therefore, while conceptual difficulty and other variables such as cohesion, coherence, idea density are vital for understanding a text, they are not easily measurable. They are, hence, not included in predictive formulae because they are difficult to estimate mechanically. In fact, factors such as legibility and illustration, (which have been discussed in this Unit) also do not lend themselves to mechanical formulae, and hence do not form a part of the readability formulae. It is vocabulary and syntax which form the basis of most formulae of estimating readability.



Self Check Exercise

9) State whether the following statements are true (✓) or false (X).

- i) Type size of 10 point is ideal for eight year olds.
- ii) Unjustified right side typesetting aids slow readers.
- iii) Legible texts immediately improve reading skills.
- iv) Pictures and drawings are always a great aid to reading.
- v) Vocabulary difficulty is usually measured by means of letter or syllable count.
- vi) The word *relative* consists of 8 letters and 2 syllables.
- vii) Articles and prepositions are structure words.
- viii) It is better never to use passive sentences.
- ix) Sentence length often indicates sentence complexity.
- x) Most readability formulas are based primarily on vocabulary, sentence stilt ure and conceptual difficulty.

Note:

- i) Check your answers with the answers given at the end of this Unit.

7.4 READABILITY AND COMPREHENSION

In this section we examine the term 'comprehension', and how comprehension tests have been used as a basis for deriving readability formulae.

As Harrison (1980) says 'readability is an attribute of texts, while comprehension is an attribute of readers'. There is, therefore, a fundamental difference between the two concepts. However, at the same time, these concepts are intimately related with each other, in that estimating readability is a matter of predicting the extent of the reader's comprehension of a text. Therefore, before we talk about readability, we must have some idea of what is meant by comprehension.

There is considerable disagreement about what involves comprehension, mainly because it is a vast area involving a number of mental processes including semantic memory, verbal learning, visual and aural information processing, logical reasoning and so on. There is even disagreement whether reading comprehension is essentially a unitary competence, i.e., single ability, or whether it is made up of a number of subskills which can be tested separately.

However, on one aspect there is general agreement. It is now firmly believed that comprehension goes beyond mere decoding of individual words, meanings and sentences. As long ago as 1908, E.B. Huey, the pioneer into research on the psychology of reading, abandoned the notion of meaning operating solely at the level of word. Even in those early days, Huey felt that there was evidence available which showed that comprehension had to be considered in terms of sentence units.

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Self Check Exercise

- 10) What are the various faculties involved in comprehending a text.
- 11) '...meaning does not reside in the text alone, but is a product of the interaction of reader and text'. Elaborate this statement.

Note:

- Write your answers in the space given below.
- Check your answers with the answers given at the end of this Unit.

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7.5 READABILITY FORMULAE

The number of predictive readability formulae now constructed runs into hundreds. Some have been designed by researchers, and others by classroom teachers. Many have been derived using sophisticated statistical techniques while others have been based on simple measurement and intuition. Formulae have been designed for different purposes and for a variety of age groups. Despite validation studies conducted, it is difficult to decide whether one formula is better than the other. Some of the popular readability formulae are the Fry graph, Fog formula, Smog formula, Flesh formula, Forecast formula, and so on. We shall discuss in detail two formulae.

Applying a Readability Formula :

One of the easiest and quickest formulae to work out the readability level of texts is the Fog Index. Of course, as you are well aware it is no more reliable than any other formula. The version, which we are going to use contains some adaptations, and is called the Modified Fog Index (MFI) (Jenkins, 1987).

Like most other formulae, the MFI looks at the crucial variables in English - vocabulary and sentence structure. In order to measure the difficulty of vocabulary, we count all the polysyllabic words, i.e., words of three or more syllables. As you know, most uncommon words in English are long and often abstract. In order to estimate the difficulty of sentence structure, we find the average length of a sentence in a passage. As mentioned earlier, long sentences are likely to be more complex and difficult to comprehend than short ones.

We now calculate the readability score of a text using the MFI. Here is a text which was considered difficult to read by students studying geography. Let us see whether the readability formulae corroborate the feelings of the students.

Evolution of Relief Features :

India is characterised by a great diversity in its physical features. The north has a vast expanse of rugged topography consisting of series of great mountain ranges, their peaks are capped by eternal snow, offering examples of some of the loftiest prominences in the world. The inter-twined series of mountain ranges flank depressed longitudinal valleys and elevated plate surfaces, displaying a vast variety in human life and culture ranging from the Nagas of the Indo-Burmese hills in the north-east to the Ladakhis of the north-west. The Himalayas form these diverse culture-groups in a thread which runs invisibly along the mountain range.

1. Count 100 words from the beginning of the passage. Count words joined by a hyphen two words. Put a vertical line after the 100th word to mark it.
2. Now find the average length of complete sentences in the text. The quickest way to do this is as follows:
 - a) Find the last full stop before the 100th word.
How many complete sentences occur up to this full stop?
The answer is 3.
 - b) Count the number of words between the full stop and the 100th word.
Subtract this number from 100, and you will know the total number of words in complete sentences.
The answer is 91.
 - c) Divide this total by the total number of complete sentences, and you will have the average sentence length.
The answer is $91/3 = 30.3$
3. Underline the words of three or more syllables up to the 100th word. These are the 'difficult' words. How many are there?
The answer is 20.



4. Now calculate the MFI formula

$$\frac{2(ASL + DW)}{5} + 5$$

where ASL = average sentence length and DW = total number of difficult words

The steps are shown below:

$$= \frac{2(30.3 + 20)}{5} + 5$$

$$= \frac{2(50.3)}{5} + 5$$

$$= \frac{100.6}{5} + 5$$

$$= 20.12 + 5$$

$$= 25.12 : \text{This is the readability score.}$$

What does the score mean?

You will generally arrive at a score between 10 and 30.

You can interpret the scores as follows:

12 and under	: very easy
13-16	: easy
17-20	: quite difficult
over 20	: very difficult

The students were, therefore, right in feeling that this text is a difficult one.

The Flesch Formula (1948) : This is one of the best known measures of readability. It measures readability in terms of a notional score out of 100 based on the following formula.

$$\begin{aligned} \text{Reading ease score} &= 206.835 \\ &- (0.846 \times \text{SYLLS}/100w) \\ &- (1.015 \times \text{WDS}/\text{SEN}) \end{aligned}$$

Where Syll/100w = Syllables per 100 words and Wds/Sen = average number of words per sentence.

The passage tends to become increasingly difficult as the score falls below 50, whereas children's book should approach a score of 100.

Now take the same text on which we applied the MFI formula. Let's use the Flesch formula and see if it corroborates the findings of the MFI Formula.

Steps 1 and 2 are exactly similar to the MFI formula.

1. Count 100 words from the beginning of the passage.
2. Now find the average length of complete sentences in the text.
The answer is 30.3.
3. Count all the syllables up to 100 words. How many are there?
The answer is 163.
4. Now apply the Flesch formula.



$$\begin{aligned}
 &206.835 - (0.846 \times 163) - (1.015 \times 30.3) \\
 &206.835 - (137.898) - (30.7545) \\
 &206.835 - 168.6525 = 38.1825 \\
 &= 38
 \end{aligned}$$

As this score shows, this passage is quite difficult, and hence corroborates the findings of MFI.

Cloze Test

Another readability test which one should be aware of is the cloze test. A librarian who works in a school, may find it helpful to use it from time to time.

A standard cloze test is a text from which every *n*th word, i.e., for instance, every sixth word, has been deleted. The examinee has to restore the text by filling in as many of the deleted words as she/he can. In doing so, she/he will use linguistic knowledge, textual knowledge and knowledge of the word. Cloze tests, which were introduced by Taylor (1953). This test involves the process of closure celebrated by the Gestalt psychologists. Guessing the missing words by the reader is a gap-filling task, or guessing the missing link. The text is considered to be readable according to how closely the reader's insertions or closures match the author's original words.

The interpretation of scores is done in the following manner. A score of 60 per cent or above indicates that the text is a fairly easy one, and can be used for *independent* reading. A score between 40 per cent and 60 per cent indicates that the students can comfortably read the material, and that it is suitable for instruction, because it represents their instructional reading level. A score below 40 per cent indicates that the material is too difficult and that it represses the readers' frustration level.

We gave the same passage with every sixth word deleted to six teachers who had all completed their post graduation.

CLOZE TEST

Read the text once through, and try to understand whatever you can of it. Read it again and fill in the blanks while you read it. Do not fill in more than one word per blank.

The land of India is characterised by a great diversity in its physical features. The north has a vast _____ of rugged topography consisting of _____ of great mountain ranges, their _____ capped by eternal snow, offering _____ of some of the loftiest _____ in the world.

The inter-twined _____ of mountain ranges flank depressed _____ valleys and elevated plateau surfaces, _____ a vast variety in human _____ and culture ranging from the _____ of the Indo-Burmese hills in north-east to the Ladakhis of _____ north-west. The Himalaya link these diverse culture-groups in a thread which runs invisibly culture-grow in a thread which runs invisibly all along the mountain range.

The mean score was 31.8 per cent. The score shows that even highly educated people were at a frustration level regarding this passage. The cloze scores, therefore, reinforce the finding of the readability formulas.

The findings of these three readability measures reveal that they are reliable guides to readability of texts, in that, their scores give similar insight about the text. These scores also match with the intuitive feelings of the readers themselves. You could, therefore, use the whenever required.

Self Check Exercise

- 12) Here is a passage from the same geography book, which the students feel is simpler. Apply the two readability formulae you have studied, as well as the cloze test, and see if your findings reinforce the claims made by these students. You may give the cloze test to five persons. While applying the readability formulae, give details of each step.



India is one of the most populous countries of the world. We are second only to China in terms of size of population. An overwhelming proportion of our population - about 76 per cent - lives in rural areas. This indicates a massive dependence on agriculture and other rural industries. The population is growing at a very fast rate. The average growth rate for the 1971-81 decade has been as high as 2.47 percent per annum. The cities or towns have registered even a higher growth. This has happened because the urban centres have expanded in area and have encroached upon the surrounding villages, as people continue to pour into urban centres in search of jobs and better living. India's population is by and large male-dominated or the proportion of women has been declining all through the twentieth century. This may be attributed more to the sociological factors which explain the low priority for the female child in the family. In the absence of proper attention the female child falls an easy prey to diseases caused by under-nutrition. A large number of women also die during child-birth.

Note:

- i) Write your answer in the space given below.
- ii) Check your answer with the answers given at the end of this Unit.

7.6 SUMMARY

In this Unit we have given you an insight into the various factors that make a text readable. These include variables such as legibility, the role of illustration, vocabulary load, syntactic complexity and conceptual difficulty. Since readability can also be measured by applying mechanical formula, we have shown you how to apply two formulae on texts. We also give you details of the doze test, which is a useful tool, especially if you are a librarian in a school.

An awareness of readability factors, will not only make you better librarians, but will also improve your own writing.

7.7 ANSWERS TO SELF CHECK EXERCISES

- 1) A librarian in a school may have to direct school children to books suitable for their age and cognitive level. If working in a college library, a good librarian should be able to suggest that certain books on a topic are better than certain others on the same topic.
- 2)
 - i. 14 point to 18 point
 - ii. italics and bold
 - iii. she/he can read faster
 - iv. right side
 - v. black and white
- 3) It is true that illustrations in a book are a great motivating factor for children to read. Illustrations are also very important in science text books, where they



often form an integral part of a text. At the same time, care should be taken in selecting the illustrations, as indiscriminate use of them can be distracting for the reader.

4)

international	letters 13; syllables 5
second	letters 6; syllables 2
course	letters 3; syllables 1
development	letters 11; syllables 4
college	letters 7; syllables 2

5)

Word length refers to letters per word and syllables per word. For example, International has 13 letters and 5 syllables.

Word frequency refers to how often a word tends to occur in ordinary usage.

Structure words occur more frequently than content words.

6)

Long sentences are more difficult to process because they contain more clauses and create great load on the short term memory and information processing capacity of the reader.

7)

i) The test substance easily corrodes, so avoid spilling it on the skin.

iii) ...using this thin material, costs would be reduced.

8)

These primitive peasants have been living near these fertile rivers for centuries. They have quietly watched the rise and fall of Empires on the banks of the Ganga or the Jamuna.

9)

i. ×

ii. ✓

iii. ×

iv. ×

v. ✓

vi. ×

vii. ✓

viii. ×

ix. ✓

x. ×

10)

Some of the faculties involved in reading include semantic memory, verbal learning, visual and aural information processing and logical reasoning.

11)

The process of reading involves an interplay of the text and the reader. Both these factors have been incorporated within the schema theory. According to the schema theory reading involves both textual and content schemas. Textual schemas include understanding words, sentences as well as discourse structures, such as paragraphing. In other words, the physical features of any piece of writing.

Content schemas refer to the readers own knowledge of the world which she/he bring to a text. On the basis of this, the reader constructs a partial, tentative model of the text's meaning, which gets progressively refined as the reader proceeds in the reading task

12)

Modified Fog Index

1. Count 100 words from the beginning of the passage.

Numbers such as 76, 1971-81, 2.47 have been counted as single words.

Answer: The 100th word is...upon...in the sentence "This has happenedand better living".

2

a) How many complete sentences occur up to the last full stop before the 100th word?

Answer : 7 sentences.

b) Find the total number of words in complete sentence

Answer : 85 words

- c) Find the average sentence length

$$\text{Answer} = \frac{85}{7} = 12.14$$

3. Count the number of polysyllabic words up to the 100th word.

Answer : 15 words.

Now calculate the MFI formula

$$= \frac{2(ASL + DW)}{5} + 5$$

$$= \frac{2(12.14 + 15)}{5} + 5$$

$$= \frac{2(27.14)}{5} + 5$$

$$= \frac{54.28}{5} + 5$$

$$= 10.85 + 5$$

Answer = 15.85 This is the readability score.

The score shows this passage is easy.

- a) *The Flesch Formula*

Steps 1 and 2 are exactly similar to the MFI formula

3. How many syllables are there up to 100 words.

Answer - 170

4. The Flesch formula

$$206.835 - (0.846 \times 170) - (1.015 \times 12.14)$$

$$206.835 - (143.82) - (12.32)$$

$$206.835 - 156.14 = 50.69$$

Answer = 50.69 is the readability score.

The test indicates that the passage is fairly easy.

7.8 KEY WORDS

Cognitive	:	Process of learning, understanding and representing knowledge
Cohesion	:	Piece of writing where parts and ideas are fitted well so that they form a unified whole.
Deciphered	:	To understand a written message.
Gestalt	:	A technical term in psychology. It is something that you see or think of that has particular qualities when you consider it as a whole, which are not apparent when you consider only the separate parts of it.
Idea Density	:	Number of ideas or concepts introduced in a text.
Intuitive	:	Feeling that something is true or exists, although one may have no evidence or proof of it.



- Justified** : A technical term in printing. A page of print (or type script) that is arranged in such a way that both the left hand and right hand edges are straight.
- Motivation** : An intense desire to achieve something, and willingness to work hard in order to succeed.
- Point** : Unit of measurement of type-size (1 inch = 72 prints) in printing; 6-point is small and 18-point is large print.
- Readability of : reader a Book** : Features of a book which make it accessible/difficult for the
- Syllable** : Part of a word that contains a single vowel-sound and that is pronounced as a unit. Therefore, the word book consists of one syllable, and reading of two syllables.
- Syntax** : A technical term in linguistics, relating to the grammatical arrangement of words in a sentence.
- Text** : Any piece of writing which forms a whole.
- Typography** : The way in which written material is arranged and prepared for printing.

7.9 REFERENCES AND FURTHER READING

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UNIT 8 ABERRATIONS IN TECHNICAL WRITING

Structure

- 8.0 Objectives
- 8.1 Introduction
- 8.2 Aberrations
- 8.3 Information
 - 8.3.1 Accurate and Complete Information
 - 8.3.2 Organisation
 - 8.3.3 Visuals
 - 8.3.4 Documentation
- 8.4 Technical Style
 - 8.4.1 Diction
 - 8.4.2 Grammar
 - 8.4.3 Punctuation
 - 8.4.4 Mechanics
 - 8.4.5 Translation
- 8.5 Summary
- 8.6 Answers to Self Check Exercises
- 8.7 Key Words
- 8.8 References and Further Reading

8.0 OBJECTIVES

After reading this Unit you will be able to:

- explain the concept of aberrations in the context of technical writing;
- check the text for complete and reliable information, organisation of content, appropriate visuals and the use of proper procedures of documentation;
- check the text for correct diction, grammatical structures, punctuation mechanics, etc.
- assess the need for sending the text for vetting and editing; and
- build a checklist to evaluate the text considering specifications, topic and audience level.

8.1 INTRODUCTION

Technical writing is a specialised branch of communication. Its purpose is to convey ideas and information with precision. Ideally, scientific text should be direct, clear and simple, and one that is easily understood by the reader. Language, content and presentation of the text should neither be beyond the level of comprehension of the target readers nor the text far below their grasp that it becomes boring. It is, therefore, important for the writer to consciously and constantly relate his/her writing to the reader, i.e. whether the text is meant for peers, students, popular consumption, industry, or readers whose second language is English ? Is the text likely to be translated for readers in languages other than that of the original? What is the background information of the reader and his technical training?

It is only natural that a person with scientific and technical knowledge can only communicate professionally, by using all the language techniques and tools available to him/her including those of editing. Though the essential approach to technical writing would remain the same, content, style, diction and presentation of each document would vary depending on the purpose and target audience. This course familiarizes you not only with skills necessary for technical writing but also warns you against certain tendencies which can be obstacles to technical communication. It is essential for a writer to have an understanding not only of the knowledge and skills necessary for technical writing but also of its standards, norms and conventions.



8.2 ABERRATIONS

Students of technical writing are cautioned against isolated errors and inaccuracies of grammar, usage and style which beset their craft. This Unit attempts to make you aware how an aberration in one area or aspect can weaken the communication. As stated earlier, an aberrant text results not only from internal shortcomings - insufficient or inaccurate content, weak organisation of information, indifferent or careless use of language, poor documentation and unnecessary, irrelevant or inaccurate visuals - but also due to deficiency in communicating its purpose and message to the reader. That is, a text may be well written and exhaustive but becomes ineffective, as Barrass (1978) says, if it is inappropriate to "the subject matter, the needs of the reader and the occasion".

It cannot be sufficiently stressed that a technical document has value as communication only at a certain point in time.

It is the relative significance of a text towards which a writer should be constantly alert. Once he/she realises that "hard and fast" rules cannot be applied in a "hard and fast" fashion he/she will be more willing to alter a text suitably without damaging its credibility and communicability.

Here we will focus on the problems that can arise in the actual process of writing. A technical document is prepared in stages - from the time it is commissioned to its final production. And aberration can occur at any stage - before the text is written, during its writing and at the later stages of preparing it for the press. For instance, a text can lack balance if the writer insists to explore the sources of information. These are, broadly, printed and visual information available in libraries, R & D units of industry, documentation centres and so on, and any knowledge that can be elicited through interviews and other forms of personal contact. If the writer depends on any one of these to the exclusion or minimal use of others, the text becomes biased.

A writer, apart from scheduling his tasks and setting deadlines, draws up an outline or plan to ensure cohesion and coherence of the content and to see that it meets the requirements and specifications of the commissioning agency. He/she either revises and checks at each stage of the writing task or writes the complete first draft and then revises, like adding, altering and deleting, to produce a faultless document. For eliminating errors he should prepare checklist for each stage of writing. To begin with, the writer can ask the following questions:

- What, if any, is the housestyle of the employing agency?
- What is the specification for the document?
- What is the deadline?
- What technical information is available and where?
- What is the target readership?
- Does the outline contain all the necessary features - title(s), aims and objectives, content with heading and subheadings, summary (or abstract), conclusion, visuals and bibliography?

To a certain extent these are some of the questions that are asked when IGNOU conducts orientation for course writers invited to write Units for various programmes being developed. Though these writers are experts in their respective disciplines they may be unfamiliar with the distance education mode of text production. When the importance of this aspect is not fully appreciated often whole units have to be rewritten.

In this Unit, we will look at technical writing from the perspectives of content reliability and technical style to identify factors which can lead to unreliability and inaccuracy if they are not sufficiently taken into account. We will also take a brief look at the difficulties of translating such texts. Translation of texts is always difficult and demanding; and the difficulty level increases as the difference between the language of the original text or the source language (SL) and the language of the target reader or target language (TL) increases. Difficulties can occur at the conceptual and linguistic levels and in finding suitable examples within the comprehension of the target reader.



Self Check Exercise

- 1) Given below are extracts which do not satisfy the norms of technical writing. They exemplify points made in the section 8.2 above. Indicate in each case what and where the error is.
 - i) The object starts by moving at some velocity which decreases as it rises, stops for an instant and then accelerates downwards so that it will be traveling quite fast again when it reaches its starting point.
 - ii) While moving upwards we would probably prefer to say that the object was decelerating.
 - iii) Essentially, the basic process of communication, as explained in Unit 1 of this Block, comprises a sender or a communicator who has a message that he or **she** transmits or conveys through some means, say a channel, to receiver who responds according to his or her understanding of the message to the sender (feedback).
 - iv) Here A, the source, formulates a message as best as he can in signs and symbols and passes it to B. Depending upon B's capacity to read the signs, he reads the message. In other words, message acts upon B as much as B 'acts' on the message.

This can be shown as:

A M B

B, in turn, might respond and formulate his 'message' as best as he can and communicate it to A

This can be shown as

A	M	B
	M	
	M	B
	M	

Figure 4: Interaction between sender and receiver of communication.

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.



8.3 INFORMATION

The purpose of scientific and technical writing is to inform. It is the responsibility of the writer to ensure that the text is reliable, i.e., the information it communicates is complete, accurate and precise. This means that all relevant statements should be supported by evidence which is substantiated and well documented. Scientific and technical information is of two kinds - qualitative and quantitative - and can be derived from primary and secondary sources. The most reliable documents support themselves by evidence from a variety of sources which is both qualitative and quantitative in nature.

For instance, a psychologist conducting an experiment on some mental disorder would record his observations of the behaviour of the experimental group and quantify occurrence of certain behaviours; supplements this information by evidence provided by question doctors and nurses who conduct tests, on patients (i.e. I.Q tests) which can be quantified; and if possible, they talk to the patients and ask them to write introspective accounts recording their experiences. All this information constitutes data for his experiment as well as evidence in support of his conclusions. In this case, reliability of the evidence will be dependent on factors such as number of patients investigated, time period over which the experiment is conducted and the variables studied.

The value of a technical or scientific document correlates positively with the accuracy, precision and completeness of information it contains, how quickly it is produced, and its relevance to the target readers.

The demand this places on the writer cannot be underestimated in view of the fact that

- the boundaries of knowledge are ever expanding as a result of increased research activity in science and technology;
- increasing applications of science and technology in every sphere of life mean an increasing variety of clientele who seek information and this is clear from the varied nature of scientific and technical documents being written every day;
- sources of printed and audio-visual information are proliferating; there is rapidly increasing publication of journals, periodicals, research papers (world wide and in different languages); besides this, with every major industry having its own R & D laboratory the amount of unpublished but useful information is immense.



An engineer or a scientist spends 15 - 20% of his work time in writing technically oriented information which ranges from departmental notes, clients requirements and specifications to sales literature. In view of the prevailing situation what does a writer do to write authentically? How and where can his/her document go wrong?

In this section we will consider the conditions which contribute to a reliable document: awareness and exploitation of sources of information, organisation of content, use of visuals and documentation. Any errors in these aspects would make the text faulty and in need of correction.

8.3.1 Accurate and Complete Information

As it has just been pointed out, the reliability of a text is directly related to the accuracy and completeness of the information contained in it. If the writer has insufficient grasp of the data or the subject under consideration he will not be able to write an accurate and complete text nor be able to communicate clearly; and not because he/she lacks competence in the language. In the example below, taken from a teaching text, ideas and concepts which require separate treatment are merged in a single sentence resulting in wrong learning.

The channels of communication are many - written, spoken, verbal, non-verbal, mass media like TV, radio, newspapers, books, etc.

From this sentence it is obvious that the writer has not studied the concept of channels in communication in great depth.

So-we see that the reliability of the information depends on the extent and depth of the study undertaken by the writer. Unless a writer marshals and exploits all possible sources of information, primary and secondary, to establish his facts by evidence and documentation his document is bound to fall short of the norm.

The 12 different sources of information listed by Rebecca and Burnett (1990) in *Technical Communication* (p.247) are:

- personal observations and activities
- calculations
- samples and specimens
- experiments
- internal records
- current version of document being revised
- document testing
- interviews and letters of inquiry
- surveys and polls
- library sources
- computerised data bases
- government documents

The writer can choose any or all of these sources depending on the nature and purpose of his document and his readership. Each of these sources can be tapped for primary or secondary information. Primary sources are considered more reliable than secondary sources. But the biases inherent in primary sources can be countered by checking the information and its interpretation from a variety of secondary sources. It is essential, therefore, that the sources of information utilized by a writer should be evaluated when checking a text for the quality of its content.

Here are some questions that will help in the evaluation of sources.

- Has the writer depended on too few sources?
- Has he consulted both primary and secondary sources and not depended solely on either one?
- Has he investigated sources that provide different perspectives on the issue being discussed?
- Has he consulted publications brought out by universities and other learned bodies on the subject ?



- Has he consulted specialised bibliographies, indexes, abstracts, etc ?
- It is evident that content wise a text can be aberrant, that is incomplete or inaccurate, if the writer has
- a poor grasp of the subject
 - not fully exploited his sources and
 - not provided adequate graphic support and documentation (this aspect will be discussed later in the section)

To check the completeness of the content, ask the following questions:

- Is the information suitable to the purpose?
- Has the hypothesis been clearly stated?
- Has the topic been analysed thoroughly?
- Are the data sufficient to support inferences, conclusions and predictions?
- Are the arguments supported by evidence?
- Are the data organised in a logical form?
- Can the reader access sources and references easily?

Completeness of information in a text has also to be matched against the projected audience. The writer would need to modify the extent and depth of information keeping in view the following questions:

- Who is the reader?
- How much does he already know?
- How much information should he get from this text?
- How might he/she want to use the text?
- Who else besides the target group are possible readers?

This would not only help to tone the content and diction, and give direction for organising the text but also facilitate the right choice of examples and illustrations.

For instance, breast feeding (i) and (ii) below need to be discussed at different levels for an academic audience and a lay audience.

i). *Anti-infective properties of human milk*

Human milk, however, has various anti-infective properties. Its flora checks the growth of undesirable pathogenic organisms, it has high lysozyme levels, and it contains immunoglobins. Recent work has shown that the cellular content of colostrum includes not only macrophages engorged with fat droplets but also motile macrophages containing abundant lysosomes.

(*WHO Chronicle* Dec. 1971, "The Uniqueness of Human Milk")

ii) Breast-feeding gives children a valuable start in life by providing the correct dosage of all nutrients at low cost, by protecting the vulnerable young infant by anti-infective agents.

To check the appropriateness of the content the writer should prepare a checklist which will not only be useful to him while writing but also serve him in revising it later.

- What is the objective of the document?
- What is its importance to the commissioning agency?
- How much information do they seek?
- What are their specifications?
- Is it clear the data are collected and what are the sources?
- What are the results of the investigation and have these been stated in the conclusion?
- Can the reader access further information on the topic?

8.3.2 Organisation

We said, in 8.3.1, that the purpose of technical writing is to inform. The depth of information, format, presentation and style differ according to the purpose of the document and the readership. But one basic consideration holds from all kinds of writing: the need to organise writing so that it is easily understood and assimilated and the data are easily accessed by the reader. One reason why a text lacks clarity is the failure of the author to organise his material properly and present it in logical order. For instance, he/she might shift from one topic to another seemingly unrelated

one and then back again to the first one; or he/she might try to deal with too many topics in one paragraph.

Example.

Para I

The discussion that follows explain the importance of model in unravelling the mechanism from a simplistic version of communication to a very intricate, complex process of mass communication. A variety of models exist all of which strive to explain ... Some of the important models of communication are specifically chosen to illustrate

Para II

A model is a pictorial presentation to show the structure of communication process in which various component elements are linked

The first sentence of Para II is more closely linked with the first sentence of Para I and should logically be linked with it.

The reader is concerned with essentials that can be grasped without striving to extract them from a clutter of nonessentials and verbiage.

Example: This passage is taken from legal language.

You are instructed that contributory negligence in its legal significance is such an act or omission on the part of the plaintiff amounting to a want of ordinary care and prudence as occurring or co-operating with some negligent act of the defendant, was the proximate cause of the collision which resulted in the injuries or damages complained of

This statement takes another 70 words or so to complete the message. In simple language it means:

If A's injury was caused partly by B's negligence and partly by her own negligence, she cannot recover damages.

The technical writer needs to understand dual principles of organising his text, general principles of expository writing and knowledge of various formats for technical and scientific documents.

Expository writing requires that any body of written information should have a beginning, middle and end. The introduction should state the thesis, inform about the method that will be adopted in developing it and the sources of information. It should lead the reader into the subject. The body of the essay develops the subject fully. The thesis should argue, discuss, exemplify, illustrate and support by evidence. The conclusion should summarise the main arguments and make recommendations.

The information is ordered following some principles or patterns of organisation. These are generally spatial (as in description), temporal (as in a step by step recounting of events) or logical (using comparison and contrast, deduction or induction to develop the argument). The statements move from the broad, general and abstract to specifics, exemplification and proof. The writer would need to understand how descriptive skills can help him/her to write an account of process or product and how narration is useful in writing experiment.

Besides having these skills, he should be able to distinguish between formats of various technical and scientific documents. For example, in a report information is organised differently from a manual or a research article. The formats are more or less standardised but variations may occur according to the house style. We will identify the main features of a report and contrast them with those of a manual to make clear the point just made. The report is usually divided into 3 parts. The essential features of the first part are: title, table of contents, list of figures, list of tables, list of appendices, list of symbols and the abstract. The second part contains





the body of information. The thesis is developed and the content is suitably subdivided and placed under headings and subheadings.

This is followed by conclusion and recommendations. The third part contains glossary, appendixes, index, notes, and sources cited, references or bibliography. On the other and, the Format of a manual includes: title, introduction, target group, theory of operation, tr. ling section, instruction, maintenance, and users guide.

No matter what the format is, technical writers must use terminology consistently. particular object the term that is used initially in the article should be used throughout, the use of synonyms is not approved in technical writing. The writer must also ensure hat sentences, paragraphs and sections are linked logically and grammatically. Such linking and the use of headings and subheadings, give cohesion to the document.

With the variety of skills and tasks that are involved in technical writing it becomes imperative that the writer prepare an outline of his proposed document. This outline will not only help in planning, organising and drafting the document but also be very useful at the time of revision.

The following questions have been Framed to check the general organisation of a document.

- Is the material presented logically according to some clear pattern?
- Does the document have an introduction and a conclusion?
- Have recommendations been made?
- Does each paragraph have a topic sentence?
- Is there unity and coherence within each paragraph?
- Are the transitions effective in linking ideas and sentences within a paragraph and between paragraphs?
- Are the visuals suitable to the document?
- Are these well-designed and displayed?
- Are these properly labelled?

If you wish to check or revise a technical report for errors seek answers to the following questions:

- Is the title precise?
- Are important facts of the document included in the summary?
- Does the summary mention the conclusion and recommendations?
- Does the introduction indicate the target reader?
- Is the purpose and scope of the report stated?
- Does it state the subject matter?
- Are the methods of investigation to be followed described?
- Does it give information about other similar investigations?
- Has the body of the report been divided into parts indicated by headings and subheading:
- Are these divisions and headings suitable to the topic?
- Are the main topics highlighted by the use of italics, capitalisation, spacing, etc.?
- Is the presented information supported by tables, graphs, lists or diagrams?
- Are these correctly labelled, placed appropriately (in the text or the appendixes) any suitable for the reader?
- Are the bibliography and references prepared according to some standard method?

Self Check Exercise

2) Indicate the weakness in each passage: is it weak because it is incomplete, or the information has been poorly organised. In each case write a sentence or two to pinpoint the error.

- i) Saussure (1935), a linguist, laid stress on texts and their meaning in the light of the "host" culture. His theory is thus concerned with explanation of cultural as well as linguistic meaning.
- ii) The co-operative movement is completely independent, the government does not provide promotion or supervision.
- iii) *Mass Media Effects and Society*
There are no clear-cut and final answers to most of these questions. Each individual must ultimately answer these questions for himself or herself.

The growth of mass communication has made it possible for us to get far more information today than at any time before.

- iv) Most of the models described in Units II and III for mass communication are similar to the model for basic communication, except that the receivers are in a large number and the feedback is delayed. Mass media personnel constantly try to improve upon channels used to mechanically transmit messages. Media "gatekeepers" serve the important role of determining what is to be printed, broadcast, or telecast for people's consumption.
- v) The patient's heart attack was caused because his diet contained too much cholesterol.

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.





8.3.3 Visuals

Visuals are an essential ingredient of a technical document. And, for a document to have value these visuals must be checked for appropriateness, accuracy and completeness.

A technical writer may not be able to illustrate his text and would need the help of an illustrator. However, he should be familiar with the basics of illustration and its terminology to make his requirements known to the illustrator. Visuals for technical articles include maps, tables, charts, flowcharts, process diagrams, graphics, drawings, and photographs.

Briefly, visuals in a technical document serve a specific purpose and have a well-defined content. Visuals define, illustrate, explain and describe objects, mechanisms and processes; verify; summarise; or support a text. They are particularly necessary when ideas and concepts in a text are complex and too abstract so that the reader would need help to understand, retain and recall them. Often, processes, operations and explanations can be more easily depicted in graphic form accompanied by words. For instance, information which requires extended comparison and contrast can be presented in tabular form. Also, verbal information giving instructions about a product, its users, its composition, etc. can be better summarised in a table. It is important to select the right kind of visual to illustrate or present data.

These questions will enable quick decisions about the choice and placement of visuals and whether all the necessary information that should accompany them has been given.

- Are visuals directly related to the text?
- What does the visual do for the text - clarify, explain, support?
- Is it suitably modified for a particular audience?
- Is it easy to understand?
- Is the visual placed close to the text reference?
- Is the visual adequately explained in the text?
- Is the reference to the visual in the text complete?
- Is it accurately labelled? have - the number, title and caption been given?
- Is the source of the data and the graphic design identified?
- Is the source authoritative?
- If units of measurement are needed, are these given accurately?
- If abbreviations are used, is the key included?
- If symbols are used - are these explained?
- Are the symbols generally understood and representative?
- Is the visual explained e.g. if a variety of tints are used, as in maps, is the colour code explained?
- Is the quality of the visual - its design and presentation - high?
- Has the specification been followed?
- Is it technically correct?
- Is the data represented sufficient for conclusions to be drawn?
- Is there a list of figures, list of tables, list of illustrations at the beginning of the document?

Apart from this each type of visual would be liable to different types of errors. For instance, for a table the label and caption are given above it but for a map, line drawing or chart they are given below. This is because the table is read from top to bottom while the figure from bottom to top. Bars in bar graphs should be of the same width and the space between the bars should be 1/2 the bar width. Besides, the information accompanying visuals should be verified with similar information in the text.

Visuals are not just decorative items in a technical document meant to arouse and sustain interest. They are essential to the content and require detailed and painstaking work both during preparation and during vetting.

8.3.4 Documentation

In technical and scientific writing it is required that all information from outside sources used by the writer in the text - all ideas, illustrations, examples, evidences, either as direct quotations, or in paraphrase - should be acknowledged with complete reference. The procedures and formats of documentation have been established by



convention. Sources are generally acknowledged in the text in parentheses or in footnotes or in the end pages. More extensive Aberrations in and detailed documentation requires a bibliography, references or sources cited, and indexes. Also, if frequent use has been made of visuals - maps, tables, figures, photographs, etc. lists of these including information about sources are prepared and are usually placed after the table of contents or placed in the end pages.

Other material that may need documentation may not be as formal as citations from books and journals. Reference might have been made to unpublished material - cyclostyled notes, papers submitted at seminars, unpublished dissertations, etc., Similarly, the author might prepare his own charts, diagrams, tables, illustrations, etc. to accompany the text he is preparing. Besides this the writer might have information from interviews, field observations, surveys, etc. All these sources should be documented.

Whatever the sources that need to be documented the author should not deviate from the standard systems of documentation. The author should be familiar with these even though he may be in a position to avail skilled assistance. There are manuals for documentation of materials which are essential reference books for any author/organisation. The texts most commonly referred to are:

The Chicago Manual of Style and the *Modern Language Association (USA) Handbook*. Besides these, institutions of science and technology publish their own style manuals. Some examples are *Recommended Practice for Style of References in Engineering Publications*, 1977, Engineers Joint Council, New York; *Style Manual for Citing Microfilm and Non- print Media*, American Library Association, 1978. The Indian National Science Documentation Centre at New Delhi provides similar services to scientists and technologists.

The minimum information regarding a source includes: the name of the author with initials(s); the title and publication (place, name of publisher or journal and date). If the reference is to a particular edition, this should be stated. This information is presented in a certain order.

Author(s)	Title
James, Bingham, and Samuel Maher (Publication)	The Kinescopic Arts & Science Princeton: Little House, 1970.

However, the format will differ, depending on how a source has been cited.

For instance, information in a bibliography (references, sources cited) is generally separated by fullstops:

- Frye, Northrup (1957). *Anatomy of Criticism: Four Essays*. Princeton: Princeton University Press.

Whereas the same information given in the text, as a footnote or in the endnotes, would be separated by commas.

- Northrop Frye, *Anatomy of Criticism: Four Essays*, (Princeton: Princeton University Press, 1957) 52.

Similarly, there are right forms for index entries which must be strictly followed if the index is to be of use to the reader. An index is usually required in a book or a long report which covers a wide range of subject matter so that cross referencing helps the reader to locate maximum information quickly. The index gives detailed references covering information on a topic in all aspects discussed in the book or report. Hence, the individual item entries must be carefully made with page numbers given against each entry. If you turn to the index of any text on science or technology you will understand the point being made.

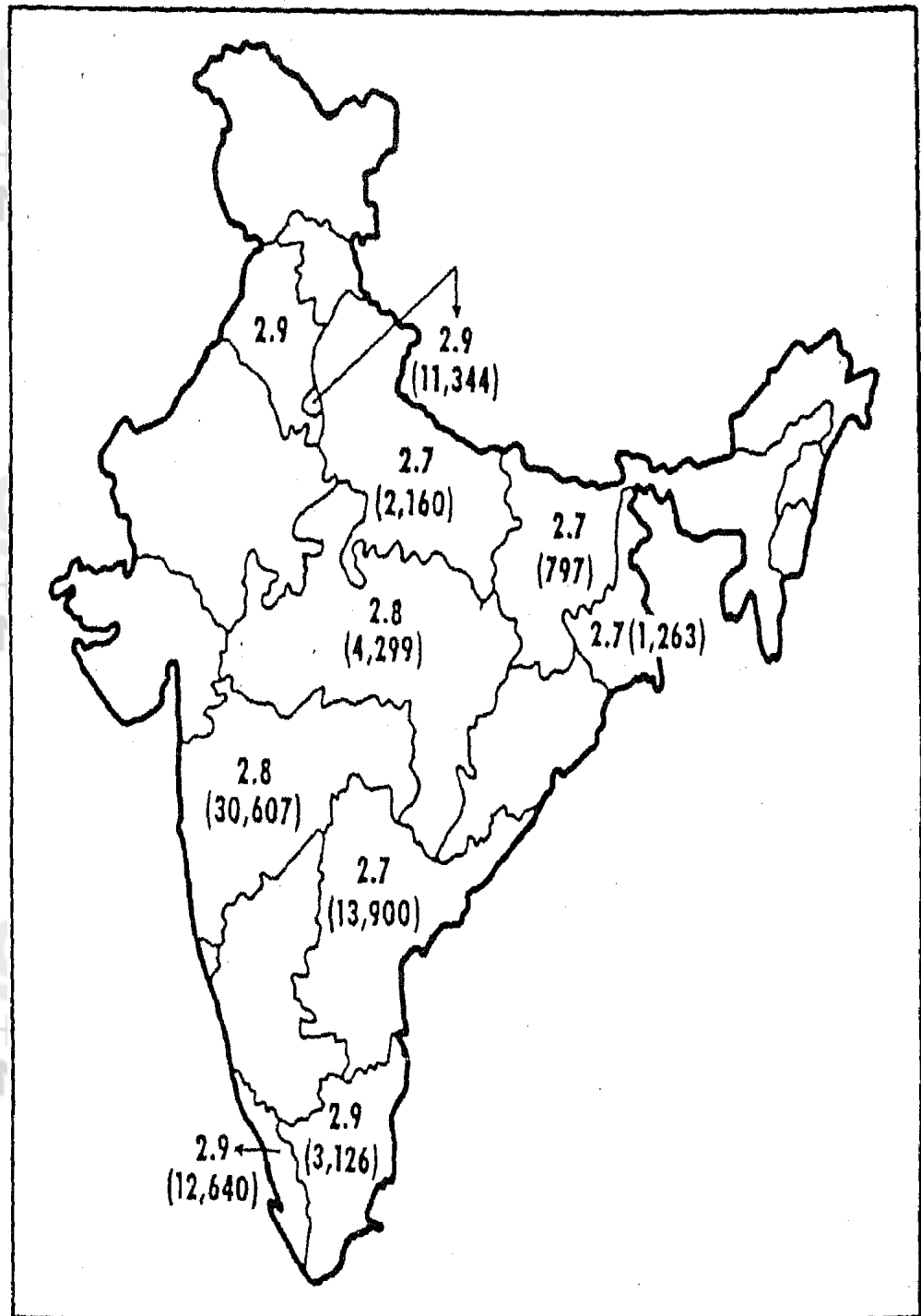
The current trend in documentation is to keep the procedure as simple as possible so as not to disturb the flow of ideas in the text and to make the necessary information easily available to the reader. The older practice of using *ibid*; *op. cit.* *loc. cit.*; *p. pp.*; *1.11.*, is now discouraged. In technical writing it is now the practice to use internal documentation and to avoid footnotes. The reference is given in parenthesis following the quoted or paraphrased material: Kendrick 1985) or (Kendrick 1985; 127).

A clearly documented research or technical text becomes reference material in case the reader wants to know more about the topic, or wishes to check the accuracy of the information it also enhances the credibility of the writer.

It is easy for an author to bungle on proper documentation. Therefore, this aspect of his document would need special attention both during writing and during revision.

Self Check Exercise

- i) Point out the ways in which the information in this map (given below) is incomplete Consult the checklist for visuals (8.3.3).



Numbers indicate Birth weight in kg.

Figures in the parentheses indicate number of observations.



- ii) Write the correct form as it should be given at the end of the text in sources cited.
 - a) Design News, David J Back, Sprayed Metal Patterns Lower Casting Costs, 17 June, 1985 pages 125-125, Volume 41, No.12.
 - b) David I Cook and Robert N. Mudougal Holt, Rinehart, and Winston, New York, Engineering Graphics and Design with Computer Applications.
- iii) What is missing in this intext documentation of quotations?
 - a) Communication is "the mechanism through which human relations exist and develop;" or
 - b) Communication is "sharing of experience on the basis of commonness" (Wilbur Schramm)

Note:

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.

8.4 TECHNICAL STYLE

You might have gathered from the previous section (8.3) how varied and demanding is the task of a technical writer in writing a proposal according to demands and specifications of the client, locating information, finalising the document and getting it published. The core of the activity is the writing of the document in a style that is easily understood and is pleasing to the reader. And it has already been pointed out that the nature of the audience is becoming increasingly varied.

In this section, your attention is drawn to certain features of technical writing - terminology, grammar, punctuation and mechanics - which are basic to all documents irrespective of the level of the audience. The style that is universally recommended focuses on accuracy, brevity, clarity and readability. The previous section discussed accuracy as a feature of reliable information. Accuracy in style results from precise use of terms and proper sentence structure. Precision in expression would eliminate **redundancy** leading to brevity and clarity.

Brevity and clarity are due to maximum use of technical terms and formal standardised sentence structures. And to a certain extent this is true. In the example below a legal statement has been made in about thirty words and it is perfectly intelligible to lawyers. But if it were written in plain language it would cover almost a page of explanation.

A statute cannot withstand an equal protection, substantive due process, or commercial clause challenge, for instance, if it does not bear a rational relationship to a legitimate state interest.

But when writers use highly exclusive language replete with technical and highly formal sentence structures the consequence is an unreadable and incomprehensible text. Such language is referred to as jargon. Briefly, then, a poor technical style consistently uses jargon, clichés and outworn phrases and images. Read the following passage and see if it could not have been written more simply.

You are instructed that contributory negligence in its legal significance is such an act or omission on the part of the plaintiff amounting to a want of ordinary care and prudence as occurring or co-operating with some negligent act of the defendant, was the proximate cause of the collision which resulted in the injuries or damages complained of

8.4.1 Diction

Diction is the use of words and phrases in a particular context giving it a distinctive quality. The words function to make the meaning immediately clear. Diction in technical writing means being aware of certain dos and don'ts in the use of words and phrases for the purpose of clarity. The use of technical words/terms is an essential feature of technical/scientific diction. Technical terms are necessary as they identify precisely an idea or an object. Their use makes the writing economical and to the point and they aid in quick communication. No single technical term can have more than a single reference so the meaning of a term is unambiguous and universal. However, the writer should be sensitive to the language competence of his/her readers otherwise, instead of facilitating communication the use of terminology, that cannot be understood, can hinder it.

For instance if lay women are being instructed to examine themselves for a lump in the breast the instruction would be: "If you feel a lump, get yourself examined by a doctor". But a nurse in the outpatient department would be instructed: "Palpate the breast for a lump".

The writer can avoid falling into the jargon trap and ensure proper diction by the practice of simple rules in the choice of words and phrases. He should use simple, direct, specific and concrete words instead of general, abstract words and phrases; he should beware of lengthy terms made up of noun strings; he/she should check his/her writing for repetition of terms, phrases, and ideas which leads to redundancy; and he should prefer positive to negative phrasing. Given are some examples of these jargon-producing tendencies in technical writing.

Abstract word/phrase

- corrosion - resistant metal
- a substantial profit
- an important client
- few changes in the procedure

Concrete words

- Stainless Steel
- a 37% profit
- Mr. Rahul Bajaj
- three changes in the procedure

Noun strings: These are a series of two or more nouns in which the first noun modifies the later ones. More words might be necessary to replace the noun string but the meaning will be clearer.



- “scanner head motor control” can be written as control of the scanner head's motor. Aberrations in Technical
- Examples are:
- urban educated reader; multi-staged purpose random sampling; steady incremental incomes; relative deprivation value expectations; agency management planning system enhancements.

Redundancy: Terms which contain two words having the same meaning should be avoided.

- basic and fundamental
- each and every
- issues and concerns
- null and void
- first and foremost
- time and period

Redundant modifiers are phrases in which one of the terms implies the other. These should be avoided.

- Collaborate together: collaborate implies together

Examples are:

- true facts; consensus of opinion; absolutely essential; personal opinion; final outcome.

Another form of redundancy occurs when two terms belong to the same general category, so that the use of one of them implies the other:

- bitter taste: bitter belongs to the category of taste so it is enough to say "it is bitter"

Examples are:

- red in colour; hot temperature; reliability factor; manufacturing process; small size.

Positive phrasing: It is to be preferred to negative phrasing as it makes the text more readable and direct.

Example:

- Negative phrasing
When the Inspector did not accept the data, claiming they were unreliable, we were not so inefficient as to reject suggestions for alternative testing methods.
 - Positive phrasing
When the Inspector rejected the data as unreliable, we sought alternative testing methods,
 - Negative phrasing
It is not unlikely that there will be many occurrences of this strain.
 - Positive phrasing
The strain will probably occur frequently.
- Negative words and phrases can be replaced by positive ones.
- not many: few; do not succeed: fail; do not accept: reject
 - Negatives formed by using prefixes are preferable to the use of 'not'
 - inefficient for not efficient and incompetent for not competent.

In writing manuals, however, the practise of using the negative is still followed. People tend to pay more attention to instructions in the negative.

- Do not bend disk
- Not for internal consumption
- smoking is not permitted in the engine room

Jargon can result if excessively formal language is used when simple, direct language can communicate faster and more easily.

Example:

- The purpose of this form is to solicit beneficial comment which will help achieve procurement of suitable forms.
- Simplified Version
- Kindly comment on this form so that it can be improved

- The judge provided the required authorisation for the search
Simplified version:
The judge authorised the search.
Here is a checklist for evaluating the correctness of the diction and avoiding jargon.

- are there unnecessary words and phrases that can be deleted?
- is the diction inflated rather than direct?
- can abstract words/phrases be replaced by concrete words/phrases?
- does the use of negatives complicate the sentence structure?
- can the negative phrases be replaced by positive phrases?
- do the unwieldy noun strings obscure the meaning?

Self Check Exercise

- 4) i) Diction
Find simple, direct words to replace the following:

i) ascertain_____	vi) predisposition_____
ii) fabricate_____	vii) expeditious_____
iii) conflagration_____	viii) advantageous_____
iv) allocation_____	ix) verification_____
v) comprehensibility_____	x) redemption_____
- ii) Rewrite these abstract sentences more directly and concretely by restructuring the underlined phrases.
 - a) *Continuation of the conservation effort* for the environment often takes place at the town government level.
 - b) *There is a need for identification of* all areas of noncompliance.
(introduce the subject of the sentence which is missing)
- iii) *Positive Phrasing*
 - a) Write the less negative form of the following phrases:
not renewable; not functional; not revocable; not logical
 - b) Rewrite positively:
If the policy is not effective, it is not irrevocable.
- iv) *Noun Phrases*
Make two or more sentences out of each of the following sentences by reducing the underlined noun phrase.
 - a) *The greedily feeding apes captured the night before* ignored the observer
 - b) *Convincing plant fossil evidence of smooth-leaved sub-tropical vegetation* has confirmed that the Arctic was once warm enough to support abundant life
- v) *Redundancy*
Rewrite each sentence leaving out words that are unnecessary.
 - a) The footsie is a plastic toy with a plastic hoop that is red in colour and circular in shape.
 - b) The reliability factor of the equipment was guaranteed.
 - c) The marketing manager explained current promotional activities

Note

- i) Write your answers in the space given below.
- ii) Check your answers with the answers given at the end of this Unit.





8.4.2 Grammar

This part is not exhaustive of the subject being discussed, and only an attempt has been made to point out some areas in which most writers make mistakes or are uncertain of the correct practice. The examples given here have been taken from technical and scientific writings and are a sample of how authentic material can be wrongly presented and distorted because of grammatical errors.

- The object starts by moving at some velocity which decreases as it rises, stops for an instant and then accelerates downwards so that it will be travelling quite fast again when it reaches its starting point.
- Let us suppose that this happens and also that there is no friction with the air to take away any energy from the moving object. This, once more, is taking a simplified or ideal situation to make it easier to work out what happens during the flight.
- The cooperative movement is completely independent, the government does not provide promotion or supervision.
- Stringent as always, the human cell vaccine is only in its testing stage by the FDA.

In this section first we will take a look at the uses of the passive voice and verb forms used as adjectives and nouns; dangling modifiers; agreement of subject with verb; agreement of pronoun with its antecedent; and the usefulness of parallel construction in technical and scientific writing; and then we will illustrate certain common features of punctuation.

The above features of grammar are examined to see how their use, non-use and abuse can assist or hinder direct, simple writing. To correct a sentence for its grammatical errors the writer should first read the preceding and following sentences and finally complete the paragraph. Once he has grasped the meaning of the paragraph he may examine individual sentences for clarity as it is communicated through grammatical structures. For instance, presently there is a bias against the use of passive voice in technical writing. The writer, aware of this, must not start converting passive sentences into active ones without first examining their role in the context. In some cases the use of the passive is the only possible construction. This is true about describing experiments that have been conducted and are later presented in written form.

Example:

- After the I.Q. test had been administered to the students they were required to take the Research test.

The problem of diction, grammar, punctuation and usage becomes intensified in the case of writers for whom English is a second language. The idiom and grammar of the mother tongue interfere with their use of English. For instance, writers whose mother tongue is Hindi either use articles recklessly or omit them altogether. This is because in Hindi nouns do not take articles.

Example:

- (i) the commission's main finding is that (the) free market...
- (ii) according to it, (the) press has not met (the) informational ... needs of the society

1) The Use of passive voice- This has been much discussed in the texts on technical and scientific writing; and the general view is that the passive voice should, wherever possible, be replaced by the active voice. The use of active form gives sentence directness and makes it shorter and easier to read without loss of meaning.

Active : Water rusts iron pipes.

- Passive: Iron pipes are known to be rusted by water.
- Inflated passive: It has frequently been observed to be condition that iron pipes are rusted by water.

Active : Research has shown that environmental factors - radiation and chemicals - increase the rates and types of mutations.

- Passive: Research has shown that the rates and types of mutations are increased by environmental factors such as radiation and chemicals.

However, passives are useful if the receiver of the action is the focus of the sentence and not the doer.

Example:

- Passive: The fingerprint is overrated by writers of crime fiction as a way to catch criminals.

Here the 'fingerprint' is the focus of the sentence and not the writers of crime fiction. Passives are used when the subject (agent or doer) is not identified as in describing the steps of an experiment or noting observations.

Example:

- Passive: The beaker of water is placed over the bunsen flame.

It is neither necessary nor practical to identify the 'doer' of the action at each stage. Since no matter who does it the action will always be the same. So the use of the passive highlights the objective nature of such reporting.

The use of **nominalisations**, or nouns and adjectives formed from verbs, should be avoided. The direct form of the verb reads better.

Example :

nominalised form of verb

active verb

- investigation
has corrosive effect upon
conduct an analysis of
- The research team conducted an **investigation** of the problem.
The research team investigated the problem.

- 2) **Dangling modifier** - Modifiers should be placed as close as possible to the word they modify. If the modifier is so placed in a sentence that it does not modify the subject of a sentence, it is called a dangling modifier.

Example:

- **To be considered for a job** a typing test must be taken
The underlined phrase modifies a subject which is missing from the sentence.
The correct form is:

To be considered for a job, **applicants** must take a typing test.

- In our laboratory we have developed a new material for the space programme **that is polymeric**.

In this sentence 'that is polymeric' modifies 'space programme' when it actually describes the 'new material'. The correct form is:

In our laboratory we have developed *a new polymeric material* for the space programme.

- 3) **Agreement of subject with verb** - It is a well known rule of grammar and one that is almost instinctively practised that subject and verb should agree in number and person. Yet this is an area of frequent mistakes.
collective noun takes a singular verb.

Example: x ✓

- The value of the gases are (is) measured by the oxygenator bypass every twenty minutes.

x ✓
The services have (has) ...





Other such collective nouns are: majority, contents, couple, dozen, number, jury, team, faculty, committee.....

Singular verbs are also to be used if 'each' and 'every' modify the subject and when or/ nor are used in the sentence.

Example:

- Each diagram was labelled correctly
- On one point everyone **agrees**.
- Neither the right nor the left **supports** the issue.

- 4) **Pronouns** - These should refer to nouns already stated and should be as close to their antecedents as possible. Loss of meaning will result if the reference is remote, missing or vague.

Examples:

- In Bihar **they** produce a lot of coal.
(who? the antecedent is missing)
the correct form is: Bihar produces a lot of coal.
- An air conditioner removes much of the humidity from the air. It either evaporates or runs off through a tube to the outside.
(It' has no stated antecedent. It is implied)

The correct form is:

An air conditioner removes much of the humidity from the air. As the humidity condenses, the resulting water either evaporates or runs off through a tube to the outside.

(The 'It' is replaced by a complete explanation.)

Too many pronouns in a sentence create confusion or ambiguity.

Example:

Owls have round eyes that are so large **they** cannot turn in *their* sockets. So *they* must rotate *their* entire head in order to following a moving object.

Pronouns must agree with their antecedent nouns in number, person and gender. Often writers use both singular and plural forms to refer to the same subject.

Example:

They have reached the age when *you* should know better.

The correct form is:

They have reached an age when *they* should know better.

When a relative pronoun (who, these, which, that) is the subject of a clause, it takes a singular verb if its antecedent is singular and a plural verb when the antecedent is plural.

Example:

- The object starts by moving at some **velocity which decreases** as its rises, In a democratic society, the education system should pursue **three goals. These are:** excellence, equality of access, and community involvement in decision making.

- 5) **Parallel structure**- When ideas or facts of equal importance are to be stated in a sentence the writer should use equivalent grammatical structures for proper emphasis. Parallel constructions are joined by any of the following: and, but, or, nor, not only ... but also, both/and, either/or, neither/nor.

Examples:

- To corrode is wearing away (x) **Writing • To corrode is to wear away (✓)**
- The procedure, the results; conclusions and recommendations .. (x)
- **The** procedure, **the** results, **the** conclusions and **the** recommendations... (✓)

Parallel construction is indicative of control and balance in thinking and writing.

Example:

- The picture of an ego **which** mediates between the id and the external world, **which** takes over the instinctual demands of the former in order to bring then to satisfaction, **which** perceives things .. (Freud: *An Outline of Psychoanalysis*)

Parallel construction is a recommended style in Distance Education texts as it is a form of listing of objectives, causes, consequences and explanations of a topic which is important for the student to know. It focuses significant information in the text facilitating retention and recall.

Parallel constructions are also used for items in a series, for definitions and for simple outline formats for reports and memos.

8.4.3 Punctuation

In this part, you will learn how punctuation can be used to organise and emphasize meaning at sentence level. Therefore, failure to use appropriate punctuation can be a cause of aberration. We () will, therefore, focus on certain specific uses of punctuation. The conscious use of punctuation as organiser of meaning is often disregarded by technical writers who, looking on it as a mechanical activity, often leave this job to editors and proof readers. A Quick revision of rules of punctuation would enable writers of science and technology texts to communicate meaning as intended, without entrusting it to others to interpret. Here are examples of well constructed sentences in which loss of meaning occurs because a single comma, in each case, has been omitted.

Example:

- A good title should help you to define the purpose and scope of the document and it should inform the reader.

This sentence requires a comma to be placed after 'document' and before 'and'.

- Combustion is fast permitting much of the exhaust gas to be recirculated to reduce combustion temperatures and consequent emission of nitrogen oxides.

In this sentence a comma is definitely necessary after 'fast'; it may also may be, placed after 'temperatures' and before 'and'.

We will illustrate the functions of the colon semi-colon and dash; of quotation marks and parentheses; of the apostrophe, the comma and the fullstop (period). The Colon, semi-colon and dash are useful as alternatives to the fullstop to signify completion of meaning. Their use precludes both short, jerky sentences with full stops at the end and long sentences without any pause.

- 1) **The Colon** is used as a convention in citations; to show time; in titles; in salutations; to set off long quotations; and, in a sentence, to introduce a list or a series.

Examples:

- Title: Synetics: The Development of Creative Capacity
- Time: 5.40 a.m.
- Salutation: Dear Mr. Ram:
- In a sentence: the machinist regularly works with the five metals: aluminium, beryllium, molybdenum, stainless steel, titanium.
- To introduce a list:



Some of the following criteria are often used:

- cost of purchase, installation, maintenance
- ease and frequency of servicing
- ease of operation
- training required.

It is incorrect to place a colon when the sentence preceding it ends in any form of the verb 'to be' i.e.,

- The people on the team were : (x)
- i)
- ii)
- iii)

The people on the team were as follows:

- i)
- ii)
- iii)

No colon can be placed after a preposition i.e.,

- By the end of this Unit you shall be able to (x)

The correct form is

By the end of this Unit you shall be able to:

-
-
-

2) **Semicolon** should be used to link two closely related sentences:

- This step by step systematic approach to the designing of a learning package can be similarly extended to the individual lessons; the same sort of breakdown can be used. Semicolons are used to separate phrases or clauses that have commas within them.

Example:

- The Units were 300 mm deep; 200, 300, or 400 mm long; and 250 mm high.

Never use a semicolon where a colon is intended - after 'as follows' or to indicate a series.

3) **Dash** indicated by typing two hyphens, (--) can be used as colon or parenthesis.

Dashes are used when the definition of a term within a sentence needs to be separated from its main idea.

Example:

- Using integrated circuits - tiny slices of pure silicone embedded with traces of impurities - engineers condensed the functions of a roomful of vacuum-tube equipment into a portable plastic box.

Dashes may be used to separate parenthetical clauses from the main sentence.

Examples:

- If he insists upon visiting the plant - and I hope he won't - then please let me know in advance.
- In order to represent objects in space as they really are - or seem to be - on the flat plane of a sheet of paper.

4) **Parentheses** are used to separate supplementary information, such as technical terms, within a sentence.



Example:

- Presenting the linguistic origin (etymology) of a term is appropriate for general readers who appreciate high-interest material.

Parentheses are also used for figure citation, acronyms and to explain abbreviations.

- Readers who wish to complete a process themselves should not depend on a process explanation; instead they need instructions. (*See Chapter xiv*)

Helix Processing System is developing a new, low temperature process for separating carbon dioxide (CO₂) from streams containing methane.

- The most noticeable difference is that whereas NEJM (*New England Journal of Medicine*) is cautious in its conclusions ...

5) **Quotation marks** are used to indicate the titles of articles from journals and newspapers.

Example:

- "Errors in the numerical assessment of the benefits of price stabilisation".
American Journal of Agricultural Economics (1967 February): 93-100

Short, direct quotations in the text are placed in quotation marks. Longer quotations (3 lines or more) are indented from the regular margin.

Example:

- Lewis Wirth gave the following definition of a city: "The city is a relatively large, dense and permanent settlement of socially heterogeneous individuals".
- Sometimes a writer might like to use in quotation marks for a slang expression or any other inexact usage to make a point. Example:

- Skilled writers refer to this situation as "data poisoning".

There are distinct rules for the use of punctuation marks - commas, colons, full stops, semicolons in relation to quotation marks; these should be observed.

Commas and fullstops are placed inside quotation marks. Colons and semicolons are placed outside quotation marks. Exclamation marks, question marks and dashes are placed inside quotation marks if they are part of the quotation, otherwise they go outside.

6) **Apostrophe** followed by 's' is used to form the possessive. It replaces the possessive phrase in a sentence.

Example:

- Women's magazine Magazine for women
- the scientist's dilemma the dilemma faced by the scientist

When the noun indicating the possessor ends in 's' then the apostrophe alone is used; it is not followed by another 's'

Example:

- Bayes' equations; Stokes' law; Gauss' equation

The possessive in the plural form is formed by placing the apostrophe after the 's' of the plural.

Example:

- the researchers' guide; the editors' guild.

But if the plural is not formed by adding 's' then the possessive form takes the 's'

Example:

- Children's exhibition



- 7) **Comma** is conventionally used in dates, numbers, addresses, informal salutations, and titles or degrees.

Example

- January 1, 1984; 33,555,104; Dear Mona, 23, Asian Games Village, New Delhi - 110049; Jyoti Raman, Ph. D

A comma should be placed before the coordinating conjunction (and, but, or, nor, for so, yet)

Example:

- Pagination and other page references can now be incorporated in the text, and the it 'ex put into its final shape.

A comma is placed after each item in a series except the last one.

Example:

- An automated coal-mining system would increase productivity, make mining safer, and protect the health of the mine workers.

Commas should not be used to separate compound elements - either two nouns, two verbs or two modifiers.

Example:

- The lenses, and photo detectors are mounted on a plate.

Commas should be used to separate introductory and dependent clauses.

Example:

- When introducing the model and unit, please specify the brand.

Commas are used to separate adjectives that qualify a noun independently and precede it.

Example:

- A complex detailed procedure.

- 8) **Fullstop** (period) is used to indicate the end of a statement or command.

A fullstop should follow numbers or letters enumerating items in a list. It is also use l as a decimal point

Some abbreviations are followed by a fullstop. Most scientific and technical abbreviations do not require fullstops. But if the abbreviation spells another word then use a fullstop after it.

Example:

- in. (inches); no.(number); fig.(figure)

8.4.4 Mechanics

Not till one gets down to the 'nifty gritty' of technical writing does one realise how important are the conventions of presentation that govern it. The observance of the rules makes a well prepared and well presented document; one that is accessible. These conventions guide this use of abbreviations, numerals, capitals, quotation marks in documentation, underlining and italics. They specify how copyright rules, bibliographies, indexes, footnotes, citations and heading systems work. The writers are expected to know about typography, indentation, typing, binding, pagination and reproduction of the document. Specialists in the various aspects of text production can be called upon to do the respective tasks. But the writer should be aware that an error or weakness in any of these areas would make a text aberrant.



It is necessary, however, to note that some kinds of aberration would make a text of little use to the reader, whereas some kinds of errors can be overlooked. For instance, wrong Writing bibliographical entries or unexplained unfamiliar abbreviations would bring into question the validity of the text. But poor typography and wrong pagination may be overlooked.

Information on the mechanics for technical and scientific writing is available as mentioned earlier in 8.3.4. However, just to alert you to the relevance of the mechanics of technical writing, some points about the use of abbreviations, numerals, and capitals are discussed. How to write bibliographical entries, indexes and citations has already been discussed under documentation.

1) Abbreviations

You will appreciate that **abbreviations** do cut down on long, cumbersome phrases that would clutter a sentence and make reading tedious. Abbreviations speed up actual writing itself as they function like code systems among members of the scientific and technical community.

Except for well-known and commonly used abbreviations (UK; USA; a.m.; p.m., etc.) it is incumbent that they be explained parenthetically the first time they are used in a text.

Example:

- Pollen was trapped at the hive entrance through a tube of PVC (polyvinyl chloride) with a grid of 5mm holes.

It is advisable not to use abbreviations frequently in the text except in cases where they are universally and consistently used as in dating periods of history as (A.D. and B.C.), times of day (a.m. and p.m), or units (1.20 hp engine; 3600 rpm; 10 db; 98.5 F, 100°C)

Abbreviations and symbols are conventionally used in visuals, tables, charts, graphs, maps, diagrams and so on. These are then explained in the key.

It is not the practice anymore to put full stops after abbreviations unless they spell another word.

Example:

- emf, rms - do not take full stops
- fig. (figure); No. (number); in.(inch) take full stops.

Unless, the word abbreviated is a proper noun, capitals should not be used.

Example:

- N (North) America; UK (United Kingdom) Btu (British thermal unit); dtd. (dated); recd. (received); regd. (regarding); temp.(temperature).

The abbreviated form of singular and plural words is the same.

Example:

- in.(inch or inches); ft. (foot or feet); cm. (centimetre or centimetres)

The use of symbols will be dictated by the housestyle. In some texts symbols such as 2' for foot', 2" for inch are used only in illustrations but not in the text; but in other texts they may be used freely. Some symbols such as \$ for dollar, £ for pound and % for percent are universally permissible.

2) Numerals

As technical and scientific writing frequently expresses information in quantitative terms use of **numerals** becomes essential. Numerals can be used to express numbers of any size, unless this would lead to confusion such as lakhs of crores of rupees or millions of billions etc. In which case they are expressed in the most comprehensible manner, using words if necessary. The conventions for numerals are universal in the following cases:

- i) A number is expressed along with the unit of measurement to give exact information, e.g. 11°C; 55 mph or kmph; 35 mm;



- ii) in the case of decimals and fractions; 2.9 : 4. 1/2;
- iii) items in a list, tables, figures, charts, etc., that are numbered;
Fig. 2; table 3; No. 7; column 3; chapter 6;
- iv) when writing dates, time of day and addresses:
 - the meeting will be held at IGNOU campus in Delhi at 2.30 p.m. on January 4, 1994.
 - Standard Book Numbering Agency Ltd.,
12, Dyott Street,
London, WC1A 1DF
UK

Numerals may not be used to begin a sentence.

- 45 books were sold (x)
Forty-five books were sold (✓)

Numerals may not be placed next to each other when each numeral accompanies a separate item with no punctuation between them, e.g.

- 24 5-inch straps (x)
Twenty four 5-inch straps (✓)

Numerals may not be used to express approximate quantities, etc.

- Around 12 samples will do (x)

Around one dozen samples will do () When numbers describe people it is better to spell them out:

- Only 4 of the people invited attended the meeting: (x)
Only four of the people invited attended the meeting (✓)

The conventions for using capital letters are generally known to users of the language. In technical and scientific writing, however, housestyle also governs the use of capitals. For instance, IGNOU housestyle requires all capitals for unit titles printed inside the text as headings and not when the same titles are printed on the contents page.

It is frequently found that when writers of technical articles want to highlight or focus certain terms they tend to capitalise them just as if they were using italics or underlining. Given is an example of excessive and unwarranted use of capitals. The intention of the writer is not at all clear. Besides, the less knowledgeable reader may not be able to distinguish as to whether the term is a brand name or the reference is general.

Example:

- Recently, a nationally known High Tech company that manufactures Circuit Board in one of its facilities had a serious problem with Assembly workers who were not following New Inspection Procedures at each work station. (x)

Recently, a nationally known high-tech company that manufactures circuit boards in one of its facilities had a serious problem with assembly workers who were not following new inspection procedures at each work station. (✓)

- 3) Headings and subheadings are essential features of any document including scientific and technical texts as they establish the subject of the section. The text should be broken up into logical units by informative headings. They provide the reader with appropriate breaks and are aids to comprehension, retention and recall of content. They make it easier for the reader to refer back to particular items of information. There are a number of heading systems in use; the most commonly used is the Decimal System as in IGNOU texts.

Convention and housestyle also dictate what heading systems to follow. For instance in distance education texts uniformity in this aspect is very important as students become familiar with the system; any deviations can become not only a source of confusion but of wrong learning. Hence the text could become aberrant according to IGNOU requirements though in the estimation of the writer it is correct. And when several course writers on a text production team are only vaguely familiar with text production conventions, it takes a great deal of extra time, money and effort to streamline the manuscripts.

It is important to note that whatever system of headings and subheadings is adopted it should be consistently followed. Confusion can occur if the capitalisation, indentation, type size and typeface deviate from the selected system.

Self Check Exercise:

- 5) (i) Write in the *active voice*.
- The respondents were questioned by qualified researchers after each screening of the film.
 - Programmes that reach large audiences are supported by commercial sponsors.
 - The benefits of "Super Glue" were discovered by accident.
 - Fingerprints are identified by dactylography experts.
- ii) Dangling modifiers
- Rewrite the sentence so that the relationship between the modifier, which is underlined, and the noun phrase it modifies is clearly established. "Long a Mecca for conservationists, we are all concerned about the severe cutbacks in funds and services the Jamaica Bay Wildlife Refuge has suffered recently".
 - The subject to which the dangling modifier (underlined) should be attached is missing. Rewrite the sentence introducing the subject.
Having reviewed it carefully the report was rejected.
 - When in production*, the engineer is responsible for keeping the production lines running smoothly.
- iii) Correct the punctuation
- Two samples were received for analysis; one from batch 2 that had low flavour, and another from batch 27 that was organoleptically acceptable.
 - When aiming the timing light at timing marks, be careful of the turning fan, also keep all wires away from the fan.
 - I would like to thank the following people for the many hours they afforded me during my visit; Mr. J. Lee, Plant Engineer, Ms. S. Shaw, Quality Control Supervisor, and Ms. M. Bright, Chemist.
 - Fire destroyed the companys data processing room
 - The section manager Thompson identified the problem
 - The Infrared Astronomical Satellite IRAS was launched in a joint undertaking by the Netherlands Agency for Aerospace Programmes NIVR, the U.S. National Aeronautics and Space Administration NASA, and the U.K. Science and Engineering Research Council SERC.

iv) Parallel structure

Instructions have been given in a manual about observance of safety rules. Rewrite these more clearly and directly following a parallel structure pattern.

Nonparallel Structure

Always Observe Safety Rules

- Wearing of Safety glasses
- Proper tool for the job
- use only tools that are functioning tools
- clean and organised work area
- Questions relating to procedures or the proper handling of tools should be presented to your group leader.

Parallel structure

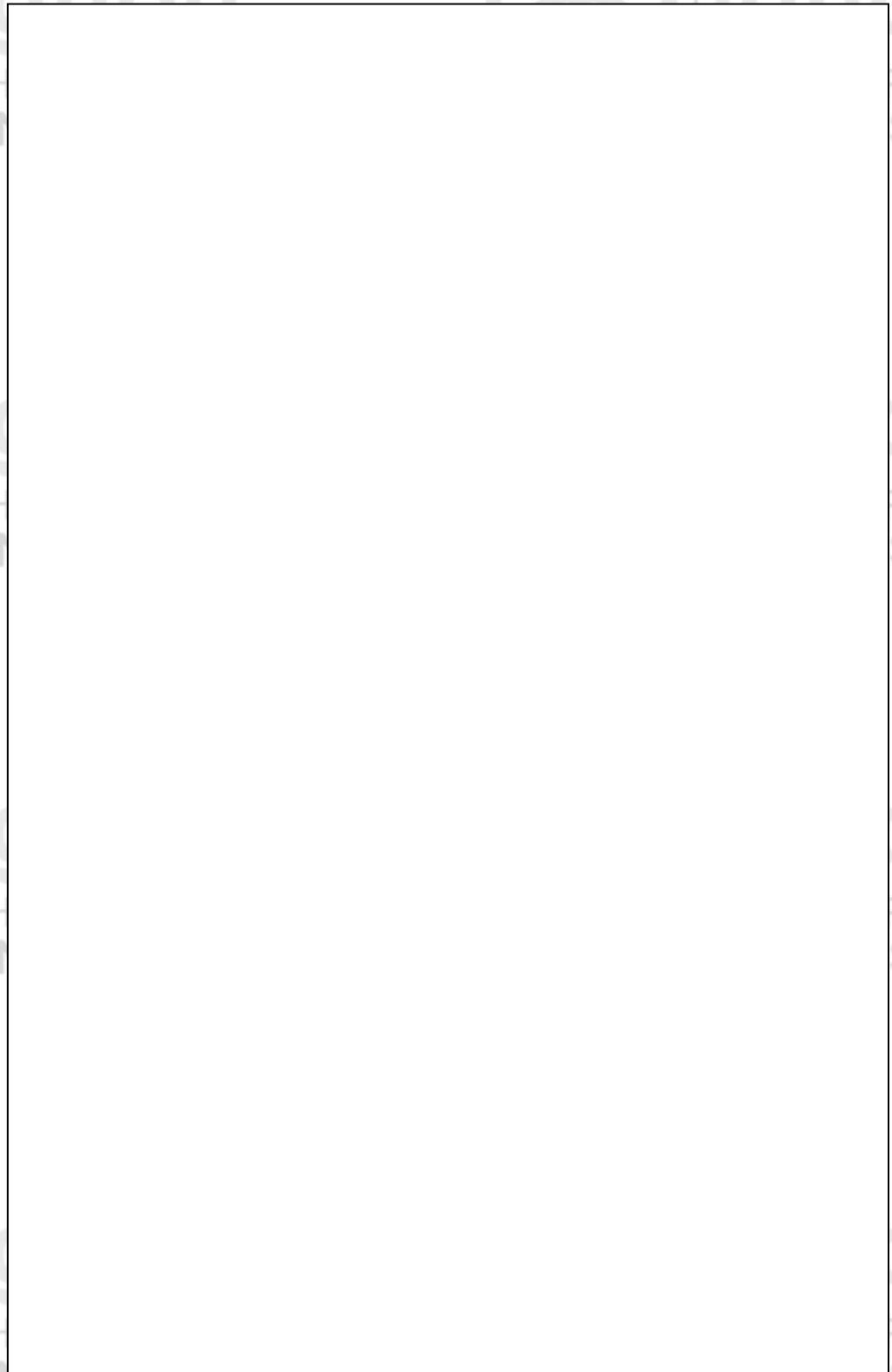
Always Observe Safety Rules

Wear Safety glasses

Note:

- Write your answers in the space given below.
- Check your answers with the answers given at the end of this Unit.





8.4.5 Translation

Authors of scientific and technical documents of some importance are aware that their target readership extends beyond the group who are familiar with the original or source language (SL) of the document. Almost simultaneous translation of texts is order of the day to meet the demands of information transfer among countries for use in industry and commerce, research and development, popularisation of science and government transactions. Among these categories the levels of readership differ from a minimum level of reading competence to a higher level.



This restatement of an obvious situation is only to make you aware that the norms of language usage in technical writing - particularly diction, terminology and the mechanics of text production - need to be strictly followed so that the translator can translate the text into the target reader's language (TL) exactly. The writer and the members of the team who are revising, vetting and editing the document should keep in mind this prospective use of the text. The fact that most such documents have time bound value (mentioned earlier) remains true also for their translation. Hence, an error free document means speedier translation.

A checklist to examine a text with translation in view is given below:

- Is the audience level and the purpose of the text clearly stated ?
- Are all items of information standardised according to the registers of science and technology?
- Is the jargon kept to a minimum to enable the translator to make the translation meaningful?
- Does the SL text use too many newly coined words or old words which have been given new meanings (neologisms)?

In science and technology, with ever expanding knowledge and creation of new disciplines of study, neologisms are being formed all the time and often have not been standardised. Such words, if reproduced in TL, can cause loss of meaning; for, quite often, such words may have more than one meaning in SL. Terms that are used with technical precision in English, which have not yet being standardised, hence have no equivalents in TL are: high-speed train; community physician; open-shop; high-rise; chronopharmacology; and so on.

- Are the punctuation, mechanics and editing of the SL text nothing to complain about?

We have just seen that a poorly punctuated text can cause problems in the original; such a text would be much more difficult to translate.

Finally, if the author of the original text (i) organises the information so that its meaning is clear and unambiguous, (ii) uses consistent terminology and (iii), avoids colloquialisms and redundancies, the task of the translator becomes much easier.

Samples of texts are given below which are well written and interesting to read, but not easy to translate because they made use of nonstandard terms and sentences to communicate the messages.

- i) Even further in the future, microbiologists might be able to *customise* bacteria to perform specific *janitorial duties*.
- ii) Most scientists believe it would be safe to release *superbugs* into the environment ...
- iii) The theoretical rationale behind this recommendation stems from well established research into reading which posits that once a child has learned how to read in one language it can then apply those skills to another language, but to start both a second or third language and to learn to read through them is an impossible task for too many children and results in literacy problems.

8.5 SUMMARY

This Unit makes you aware that unless a scientific or technical document is free of error in all its aspects it is considered an aberrant text.

Scientific and technical documents are usually written to specifications of the commissioning agency. The efficiency, acceptance and value of such documents are dependent on faultless writing and production. It has been the practice to check such texts for individual and isolated errors.

This Unit, by discussing the major areas in which errors can occur and the possible kinds of errors, treats the complete text as a single unit to be analysed holistically for deficiencies. A text can be considered aberrant if it falls short of the required norms which have been outlined in the text under the headings: 'Information' and the 'Technical style'.

The areas in which a text may be examined for shortcomings in content are liability, completeness, accuracy, appropriateness (to the topic, the occasion and the reader) and conformity to the recommended technical standards. In the contemporary situation, translation of texts is vital and an originally well written and well produced text would ensure correct translation.

Reliability, accuracy and completeness of the information result from extensive research and fullest utilization of resources. The authenticity of the information is established by complete documentation of sources. Visuals are essential to technical and scientific writing; as they concretise, explain and summarise information.

Criteria have been developed for the use of language for informative writing to ensure precision, brevity, clarity and readability. Jargon should be used sparingly and the sentences should be direct, positive, short and free of abstractions, generalisations, redundancies and ornamentation. The grammatical structures to avoid are: passives, noun strings, dangling modifiers and abstract nouns.

Writers are often careless in the use of punctuation marks. The use of colon, semicolon, dash, parentheses, comma, quotation marks and linking words should be fully understood to make the text coherent and tightly knit.

Finally, technical writing requires the use of certain mechanics which assist in speedy and correct communication and brevity in writing. These mechanics - abbreviations capitalisation, numerals, quotation marks and documentation - are universal in application.

The Unit emphasises that the scope of the writer's task is not limited only to writing the text but requires a fair grasp of each stage of production till it is published. So he/she is a member of a team comprising the editor, content expert, illustrator, graphics designer and publisher who together validate a text free from error.

8.6 ANSWERS TO SELF CHECK EXERCISES

Exercise 1

- i) The pronoun references are not clear because these are too many in one sentence. The ideas in this sentence can be given in two sentences.
- ii) From this sentence it seems that 'we' and not the 'object' is moving upward.
- iii) The meaning of the latter half of the sentence is altered because of missing comma. It should read as follows:
say a channel, to a receiver who responds, according to his or her understanding of the message, to the sender (feedback).
- iv) The figure is inadequate. The explanation discusses a movement of a message A to B and vice-versa. In the figure there is no indication of any kind of exchange between A and B (arrows or lines etc.)

Exercise 2

- (i) Information is incomplete, since, the word 'host' has been placed within quotation marks, and it has been used in a specific sense. Though the next sentence does hint at its meaning, it should have been more directly and extensively defined.
- (ii) This sentence has two independent clauses separated by a comma. These clauses should be written as independent sentences.
 The co-operative movement is completely independent. The government does not provide promotion or supervision.
- (iii) The second sentence is irrelevant and should be deleted. The 'questions' refer to the subject of mass communication and answers to them have to be based on facts. These are not subjective questions which each person is free to answer any way he/she likes, as the sentences implies.
- (iv) The topics of the three sentences in this passage raise different issues - models, channels and 'gatekeepers' - which have neither been logically nor grammatically linked. Therefore, it is a badly organised paragraph.

- v) Too much information has been compressed into one sentence. It seems as if unrelated Aberrations and unlinked ideas have been put together. Actually, the idea it contains needs to be expanded and elaborated to make complete sense.
- vi) The statement is too generalised. Many other factors besides high cholesterol combine to cause a heart attack.



Exercise 3

- i) Answer is to be given by the student
- ii)
- Bak, David J. *Sprayed Metal Patterns Lower Casting Costs*, Design News, Vol. 41, No. 12 (June 17, 1985) 124-25
 - Cook, David I. & Robert N. Mc Dongal. *Engineering Graphics and Design with computer applications*. 1986. Holt Rine Hart and Winston, New York.
- iii)
- The quotation is not followed by intext citation or any indication that the source is given in a footnote or endnote.
 - The intext citation is incomplete. Assuming that the title of the source text is given in the bibliography, the page number of the quotation should have been given after the name of the author.

Exercise 4

- i) (i) findout; (ii) make; (iii) fire; (iv) allocate; (v) comprehend; (vi) tendency; (vii) fast; (viii) useful (ix) verify; (x) redeem.
- ii)
- Many town governments continue to conserve the environment.
 - The Quality Control Inspector must identify all areas of noncompliance.
- iii)
- nonrenewable; disfunctional; irrevocable; illogical
 - If the policy is not effective it can be revoked.
- iv)
- The apes ignored the observer. Captured the night before, they were feeding greedily.
 - Plant-fossils of smooth-leaved subtropical vegetation have been found in the Arctic. They confirm that this region was once warm enough to support abundant life.
- v)
- The footsie is a circular, red, plastic toy with a hoop.
 - The reliability of the equipment was gauranteed.
 - The marketing manager explained current promotions.

Exercise 5

- i)
- After each screening of the film, qualified researchers questioned the respondents.
 - Commercial sponsors support programmes which reach large audiences.
 - Experts discovered the benefits of "Super Glue" by accident.
 - Dactylography experts identify fingerprints.
- ii)
- Long a Mecca for conservationists, the Jamaica Bay Wildlife Refuge has suffered a severe cutback in funds and services.
 - The committee, having reviewed the report carefully, rejected it.
 - The engineer is responsible for keeping the production lines running smoothly.
- iii)
- Two samples were received for analysis: one from batch 29 that had low flavour, and another from batch 27 that was organoleptically acceptable.
 - When aiming the timing light at timing marks, be careful of the turning fan; also keep all wires away from the fan.
 - I would like to thank the following people for the many hours they afforded me during my visit: Mr. J. Lee, Plant Engineer; Ms. S. Shaw, Quality Control Supervisor; and Ms. M. Bright, Chemist.
 - Fire destroyed the company's data processing room.



- e) The section manager Thompson identified the problem.
 - f) The Infrared Astronomical Satellite (IRAS) was launched in a joint undertaking by the Netherlands Agency for Aerospace Programmes (NIVR), the U.S. National Aeronautics and Space Administration (NASA), and the U.K. Science and Engineering Research (SERC).
- iv)
- a) select the proper tool for the job.
 - b) use only properly functioning tools
 - c) maintain a clean and organised work area
 - d) ask your group leader questions about procedures and tool handling.

8.7 KEY WORDS

Deduction	:	A style of reasoning which seeks to explain any phenomena by arguing from the general to particular.
Diction	:	The choice of words or phrases in speech or writing to express ideas.
Documentation	:	The assembling, lading, and disseminating of recorded knowledge utilising language resources, psychological and mechanical aids and techniques of reproduction includes micro copy for giving documentary information maximum accessibility and usability.
Expository	:	A piece of writing that seeks to examine the theme through analysis or explanation.
House style	:	Conventions used by a publisher when ' preparing material for printing which may be different for different publishing houses depend on their needs requirements and preferences.
Induction	:	Act or process of reasoning from a part to a whole, from particular to general or from individual to the universal - opposite of deduction.
Jargon	:	Every profession has a specialised language which conveys ft is and concepts quickly and efficiently among the group. Jargons also refers to terms and expressions that are unclear because the reader is not familiar with them.
Manuals	:	A handbook published by an organisation giving practical step by step instructions on how to do a particular job; can be used to impart training on the job.
Mechanics	:	Mechanical or functional details that have to be attended to in the production of a text i.e. details of punctuation.
Redundancy	:	Use of more words than are necessary to convey an idea or thought.
Reports	:	A special type of publication with a given format and structure use to communicate facts, ideas, results of research, etc. to the person who needs it. Also used for interoffice correspondence, which can be formal or informal.
Software Documentation	:	Documenting computer programs, procedures, rules (see documentation). For use in a library/any organisation using such equipment.
Specifications	:	A statement containing a detailed description of particulars - as in the terms of a contract or directions on how to make or construct something.

Terminology	:	Standardised terms of any particular discipline.
Usage	:	In any language the habitual use of a word or phrase in a particular sense.
Vetting	:	To submit a text to an expert for examination and improvement.
Visuals	:	Information presented in the form of graphics, drawings, photo-graphs, graphs, charts, maps, etc. to complement the printed matter in a text.



8.8 REFERENCES AND FURTHER READING

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