

Acknowledgements

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M. Haghani (2006)

reface

The aim of the English for the Students of Engineering is to develop in students an ability to handle the kind of written English that they will be concerned with as an integral part of their specialist subject. My purpose is to make students aware of the way English is used in actual written communication, and thereby to help them develop techniques of reading and, to some extent, to provide them with a guide for their own writing.

The book is based on the belief that intermediate and advanced students who are studying English as a necessary part of their specialist studies need a distinctive type of textbook: one which reflects the nature of the learning problems encountered at this stage.

In writing this book, two basic assumptions have been made. Firstly, it is assumed that the students have had a good deal of instruction in grammar and that they have a considerable dormant competence in English. The book is directed at activating this competence, and extending it, by leading the students to relate their previously acquired linguistic knowledge to meaningful realizations of the language system in passages of immediate relevance to subjects of their interest. Secondly, it is assumed that students already have a basic knowledge of engineering materials. The aim is not to teach subject matter but to develop in the reader an understanding of how this subject

matter is expressed through English. It should be emphasized that this book is not designed to teach either language in isolation or subject matter in isolation but the manner in which both combine in meaningful communication. I believe that by relating content and expression in this way, the subject matter takes on new interest and the linguistic difficulties are reduced.

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Introduction

Guide to the Book

The book contains 15 units each of which is divided into three parts:

1. Pre-reading,
2. Reading & Comprehension, and
3. Homework.

1. *Pre-reading*

The exercises in this section activate the learner's prior knowledge and arouse his/her interests. Meanwhile he/she learns how to guess the probable meanings of unfamiliar words using contextual clues and affixation rather than look them up in the dictionary. (Dictionaries should not be used in class at all.)

2. *Reading and Comprehension*

This section begins with a reading passage within which are inserted a number of comprehension checks in the form of multiple choices. These checks are inserted within the reading passage itself to encourage the learner to think about what he/she reads *as* he/she reads and to pay close attention to what is actually expressed in the passage. Once the learner realizes that his/her understanding is going to be systematically checked, he/she is likely to read more attentively for meaning and to treat his/her reading not simply as a language exercise relevant only to the English class but as a technique for acquiring information which will be useful in a wider field of study.

There are also three forms of comprehension checks at the end covering the entire passage: true/false, multiple choice, and wh-questions. The final comprehension checks reflect the major ideas of the article in order to help the student learn to focus on important information.

3. *Homework*

The homework part consists of five sections: vocabulary, grammar, guided writing, further reading, and translation activities.

The language in which scientific and technical facts are expressed is certainly not a different

language from that of everyday life, but all the same it presents the non-native student with a number of problems. The most obvious and the most widely recognized of these problems is the vocabulary. There is a vast vocabulary of technical words, but the problem is not so frightening as it looks. In the first place, many of these highly technical words are fairly international; and in the second place, they usually have very specialized meanings. Much more difficult are the semi-scientific or semi-technical words, which have a whole range of meanings. One of the aims of this book is to present as many of these words as possible: words such as *work*, *develop*, and *power*. Words like these seem harmless, but they can cause a lot of trouble to the student.

And there is another kind of word which is important: the verbs, nouns, adjectives, and adverbs which are not specifically scientific, but which belong to the phraseology of science. A wide variety of these words will be found in this book in the Word Form Exercise.

But more than anything else, I have tried to describe the technical statement; that is, the completed sentence rather than the individual word. Many of the structures illustrated in the Pattern section are found also in ordinary language though not so commonly. But they are essential to the expression of technical facts and ideas. The structures and practice sentences are intended to familiarize the non-native student with the kind of writing and the kind of statements he/she is likely to find in his/her reading of scientific and technical literature. In writing these sentences, I have taken for granted that the learner has a knowledge of concepts of elementary mechanics and physics of the kind that would be studied in high school.

The aim of the Guided Writing exercise is both analytic and integrative. At the first stage, the student goes through a few disordered sentences and tries to organize them into a coherent paragraph. At the second stage, the student examines incomplete sentences and completes them according to the passage content. Finally he/she looks carefully at various groups of words and combines each group into a sentence based on the passage content.

The Further Reading section consists of a passage on the same subject as the reading passage in part II. The reason for including this section is to give the student an opportunity to read and comprehend longer passages. This section also provides additional opportunities for word study and gives the student a chance to try his/her skills in looking for further examples of the points he/she has studied in the unit.

The Translation section is an attempt, though very trivial, to make the student realize the problems of transforming a second-language text into the mother tongue. It is hoped that the final section of each unit will provide a bridge to more extensive reading beyond the confines of this book, and that the student will be encouraged to consult his/her standard engineering texts as a further source of information about the way language is used.

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