Writing scientific papers and giving talks at meetings and conferences are essential parts of research scientists’ work, and this short, straightforwardly written book will help workers in all scientific disciplines to present their results effectively. The first chapter is about writing a scientific paper and is a revision of an essay that won first prize in a competition organized by Koch–Light some years ago. Later chapters discuss the preparation of manuscripts, speaking at meetings and writing theses. One chapter is for scientists whose first language is not English. Another is addressed to those in North America. The last chapter gives information about dictionaries, style books and other literature.
COMMUNICATING IN SCIENCE
Writing a scientific paper and speaking at scientific meetings

Second edition

VERNON BOOTH
Formerly of Trinity College, Cambridge
Dedicated to T. W. Fline
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ix
Foreword

This final edition of ‘Communicating’ was assembled by Cambridge University Press from material prepared by Vernon Booth before his death in 1991. His family would like to thank the Press for thus making publication possible.
Balloons & instructions for the typist & the printer

Don't type these:

Tail:

Entries in the margin that are ringed are said to be in a 'balloon'. If the balloon has a tail & a caret, the word(s) go into the text. If there is no tail, the balloon either contains or contains instructions. If the instructions are for the printer they may be typed and bounded by two [] rather than enclosed in a ring.

To remove a word, cross it out boldly. To remove a small character, draw a tiny wiggle.

If you have crossed out a piece, then wish it to be kept, under line it with dots and write 'stet' in the margin. Stet means let it stand.

There is no guarantee, given that these conventions are accepted or understood everywhere. Indicate that a new paragraph (NP) is needed as shown.

If no NP is needed, draw a snake and write 'run on'.
Explanation for the second edition

In one laboratory in Cambridge, if a person became unapproachable, we said he or she was giving birth. Paper labour can be a traumatic experience, but should not be. The writing of a paper, or a book, although indeed a task, should be a pleasant occupation. Books on scientific writing have been published, but scientists ‘do not have time’ to read them. So, in 1970, I wrote an essay, *Writing a Scientific Paper*, and submitted it for a competition organized by Koch–Light Ltd; the essay was awarded first prize, and issued as a booklet.

Later editions of the booklet grew longer and were published by the Biochemical Society. For the CUP version, various sections were expanded into chapters. This made the book longer, but the principal chapter remained short and kept its original title. The subtitle of the previous CUP edition was *writing and speaking*. This was felt to be misleading; so it has been changed. Numerous other changes have been made for this edition.

Chapters One and Two are intended primarily to help scientists, engineers and others to write papers for journals and to give short talks. However, nearly all the suggestions also apply to the writing of books and the delivery of full lectures.

The style, especially of the first chapter, is succinct, at times even terse. So much had to be written, in so small a space, that conciseness was highly desirable. Chapter One is not suitable for fast reading.

Parts of the book are written in the imperative, the simplest style. This is not intended to be categorical. True, certain parts are controversial; but life would be dull if we all agreed. There may be errors; most books have errors. But I ask you to read it (as an examinee once added) e. & o.e. (errors and omissions excepted).

Some of the words that are discussed are in ‘quotes’ or *italic*. A plethora of quotes and italic can be irritating; so, where the meaning
EXPLANATION FOR THE SECOND EDITION

should be clear without them, they are not used, even at the risk of some loss of consistency.

Examples of a directive being discussed are referred to in brackets. Thus [1 (10)] means there is an illustrative example or more information in the line marked (10) in the margin of Chapter One.

You will see T. W. Fline mentioned in various places. This refers to Those Whose First Language Is Not English. Whenever we write or speak, we must think of these people.

The majority of papers submitted for publication are returned to authors for revision. Naturally, you would like each of your papers to be accepted without change. This book cannot guarantee your fulfilling that ambition, but perhaps it will help.

As you read this book, you may realize that I enjoyed writing it. I offer best wishes that you too will enjoy writing, preparing scripts and speaking.

I am grateful to many, many colleagues, as well as to several editors at CUP and in various countries, for help and suggestions.

Vernon Booth
January 1991
Glossary of some printers’ terms

balloon. Ring drawn round instructions to the printer. [Page 46.]
bold. Heavy type as here. In a script, underline with a wavy line.
braces. Curly brackets { }.
brackets. Square brackets [ ]. The term bracket is used in a general way
to include parentheses ( ), braces { } and angle brackets ⟨ ⟩. To an
author brackets usually mean parentheses.
caps, upper case. CAPITAL LETTERS. In a script underline
three times.
copy. The script. To avoid confusion, a photocopy should be so named.
em rule. Long dash (—). Length of cap M. [1 (33).] Many publishers
use a spaced en rule (−).
en rule. Short dash (−). Half the length of em rule. [Page 21.]
folioation. Numbering of folios.
folio. (1) Sheet of script. (2) Page number. (3) Sheet of paper of any
size folded once.
full point. Full stop, period.
index. (1) Alphabetical list of topics at the end of a book. Plural,
indexes. (2) See superior below.
inferior, subscript. Small low digit(s) or other character(s). \(H_2SO_4\), \(2n\).
ital, italic. Sloping type. Spelt with lower-case ‘i’. In a script, underline
once.
justified lines. Lines of print made the same length by varying the
spaces between words. See window below.
leading. Space between lines of type. Pronounced ‘ledging’.
I.c., lower case. Small letters, i.e. not caps.
legend, caption. Explanation to a figure. Term occasionally also used
for explanation to a table. Ideally, legends should be understandable
without reference to the text, and, to identify them they are often set in
smaller type. Legends (or captions) to figures are usually placed below,
GLOSSARY OF SOME PRINTERS’ TERMS

whereas those for tables are usually placed, more logically, above the display.

letter space. Space between letters.

numeral. Digit. See page 16 under Homonyms.

par. Paragraph. [1 (16).] N.P. New paragraph. [Page xii.] Indicate NP by □ or —.

dot, punto. Point. See punctuation.

parentheses, round brackets ( ). [1 (18).]

quotes are often called ‘inverted commas’ though only the first is that; the second is an apostrophe or raised comma; ‘single’, “double”

reference marks. * † ‡ § ¶ ** †† . . . Use them in this order for footnotes.

reprint, offprint. A printed copy of a single article from a journal or book. If available before publication then known as a preprint.

roman. Normal upright type, not italic or bold. Spelt with lower-case ‘r’.

run on. Continue in same para. See last sentence, page xii.

sans serif, sans. Type without serifs. THIS is sans. H girder; O ring; S shape; T join; U tube; V groove. For text, sans is less legible than type with serifs. [8 (1).] See The typewriter’s or word processor’s type face (page 47).

sm. cap, small caps. Capital-style letters only slightly larger than l.c.

used for emphasis, for headings and for some conventions. In a script line, underline twice.

superior, superscript. Small high digit(s) or other character(s). mm³, ²n.

Also called index; plural, indices.

widow or club line. Short line at the top of a page.

window. Wide, ugly gap between words in a line.

word space. Space between words.