The Project Gutenberg eBook of Division of Words, by Frederick W. Hamilton
This ebook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this ebook or online at www.gutenberg.org. If you are not located in the United States, you'll have to check the laws of the country where you are located before using this eBook.

Title: Division of Words
Author: Frederick W. Hamilton
Release date: November 6, 2005 [EBook \#17016]
Most recently updated: December 12, 2020
Language: English
Credits: Produced by Barbara Tozier, Bill Tozier, Sigal Alon and the Online Distributed Proofreading Team at https://www.pgdp.net
*** START OF THE PROJECT GUTENBERG EBOOK DIVISION OF WORDS ***

```
Transcriber's Note:
1. Some examples which appear not to follow the preceding guideline are printed thus in the original book. It looks as if sometimes the guideline is mistaken.
2. Accented syllables are marked with a single quote (').
3. This book uses several diacritical marks for phonetics, the table below lists the codings used: (the "x" represents a character with a diacritical mark)
Macron (straight line) below [x=]
2 dots (diaeresis) below [x:]
Small capital I above [Ix]
```


## DIVISION OF WORDS

## RULES FOR THE DIVISION OF WORDS AT THE ENDS OF LINES, WITH REMARKS ON SPELLING, SYLLABICATION AND PRONUNCIATION

BY
FREDERICK W. HAMILTON, LL.D.

EDUCATIONAL DIRECTOR
UNITED TYPOTHETE OF AMERICA

PUBLISHED BY THE COMMITTEE ON EDUCATION
UNITED TYPOTHETAE OF AMERICA
1918

Copyright, 1918
United Typothetae of America
Chicago, Ill.

The principal purpose of this book is to give in brief form the rules and usages governing the division of words when the measure will not permit ending the word and the line together. This matter is considered in its relation to good spacing and to the legibility of the printed page.
Leading up to the discussion will be found some consideration of spelling, the formation of syllables, pronunciation, and accent. This consideration is necessarily brief, and no attempt has been made to give the rules for spelling which are so frequently found in spelling books, or any of them. In the writer's opinion such rules are of very little practical value. Good spelling is not so much the result of remembering and applying rules as it is of observation, practice, and memory. The lists of certain types of troublesome words may be found useful for ready reference.
Syllable formation, pronunciation, and accent are considered because it is hoped that the volumes of this series, particularly those in Part VI (Correct Literary Composition) and Part VIII (History of Printing), will contribute something to the general education of the apprentice as well as to his skill in the trade.

## CONTENTS

|  | PAGE |
| :---: | :---: |
| $\underline{\text { Spelling }}$ | 1 |
| Pronunciation | 12 |
| Accent | 16 |
| Division of Words | 17 |
| Rules for Division of Words | 19 |
| Importance of Spacing | 22 |
| Division in Lines of Display | $\underline{23}$ |
| Supplementary Reading | 24 |
| Review Questions | $\underline{25}$ |

## DIVISION OF WORDS

The division of words when the words do not exactly fit the register of the line has always been a source of trouble. In the days of the manuscript makers devices such as crowding letters, reducing their size, or omitting them altogether were freely used and words were arbitrarily divided when the scribes so desired. During the greater part of the time every scribe divided as he pleased, often in ways which seem very strange to us, like the Greek custom of dividing always after a vowel and even dividing words of one syllable. With the invention of printing, however, the number of these devices was greatly diminished. It became a matter of spacing out the line or dividing the word. Of course that meant frequent word division and called for a systematization of rules with regard to this division. These rules for division are necessarily based on spelling and syllabication.

## SPELLING

The idea that there is one right way to combine the letters representing a certain sound or group of sounds, that is a word, and that all other ways are wrong and little short of shameful is a comparatively new idea among us. The English speaking folk held down to a comparatively recent time that any group of letters which approximately represented the sound was amply sufficient as a symbol of the word. This sort of phonetic spelling was commonly followed, and followed with great freedom. No obligation was recognized to be consistent. In ordinary writing, such as letters and the like, it is not unusual to find the same word spelled in a variety of ways in the same document.

The last century has brought about an attempt to standardize spelling into conventional forms any departure from which is regarded as highly derogatory to the writer. In many cases these forms are fixed arbitrarily, and in some there is even now disagreement among the highest authorities. These difficulties and disagreements have two reasons: First, English is a composite language, drawn from many sources and at many periods; hence purely philological and etymological influences intervene, sometimes with marked results, while there is a difference of opinion as to how far these influences ought to prevail. Second, the English language uses an alphabet which fits it very badly. Many letters have to do duty for the expression of several sounds, and sometimes several of them have nearly or quite the same sound. For example, there are a number of distinct sounds of $a, i$, and $o$ while $g$ is sometimes indistinguishable from $j$ and $c$ from $k$. This is not always a matter of modification of sounds by the sounds of other letters combined with them. One has to learn how to pronounce cough, dough, enough, and plough, the ough having four distinct sounds in these four words. Each one of these sounds, by the way, could be exactly as well represented by another combination of letters which would be
unmistakable, viz., coff, doe, enuff, and plow. It is impossible to tell except by the context either the pronunciation or the meaning of bow. If the $o w$ is pronounced as in low, it means a weapon. If the $o w$ is pronounced as in cow it may mean either an obeisance or the front end of a boat.
This standardization of spelling is unfortunately not quite complete, although nearly so. Concerning the vast majority of the words in the English language there is no difference of opinion. A few words are differently spelled by different authorities. There are seven of these authorities of the first rank, three English, Stormonth, the Imperial Dictionary, and the Oxford Dictionary; and four American, Webster's International, Worcester, the Century Dictionary, and the Standard Dictionary. American printers may ordinarily disregard the English authorities.
Any one of the four American authorities may be safely followed. In cases where two spellings are given in the dictionary consulted, take the first one. Ordinarily a printing office adopts one of the great authorities as a standard and conforms the office style to it. All office copy will follow it and all errors in copy from outside will be corrected by it. Spellings differing from it will be regarded as errors, even though supported by other authorities.
This rule, however, is subject to one very important exception. The author has an unquestionable right to choose his own dictionary or to use any spelling for which there is any authority, English or American. If he has his own ideas on the subject of spelling he should be very careful that his manuscript is correctly spelled according to his ideas, and clearly written or typed. He should also indicate on the manuscript the authority he wishes used in correcting the spelling in case of mistakes or illegible passages. Every care should be taken to make the manuscript copy as correct as possible and as legible as possible. Such care may be very troublesome at first, but it will result in great saving of expense.
In addition to the authorities named there are the rules and "reformed" spellings adopted by the American Philological Association and published by the United States Government. These are followed fully in some offices, partly in others, and in many not at all. This is a question of the office style and the author's wish. If copy is clear and spelled according to any authority, it is the compositor's duty to follow it. If it is misspelled or illegible he is to correct it according to the office style unless otherwise directed by the author in writing. If furnished with such a direction he is to follow it. This procedure will clear the compositor of all blame. Any questions which then arise lie between the author and the proofreader.
In the case of the reformed spellings, however, the departure from the ordinary appearance of the words is so great that the author cannot be allowed full freedom to set aside the office style. If he is paying for the printing he may insist on his spelling. If he is contributing to a periodical and the printing is done at the publisher's expense it is for the publisher to determine the style of printing to be used.
Any full consideration of the question of reformed spelling is hardly in place in this book. The author may perhaps be permitted one observation. Innovation in the use of the English language would appear to be primarily the work of scholars, and the adoption of such innovations would seem to belong to the book printer rather than to the commercial printer. The public mind as a whole is conservative. It is not hospitable to changes and does not soon become aware of them, much less familiar with them. The commercial printer makes his appeal to the mind of the general public. He will do well to use a vehicle familiar, intelligible, and acceptable to it.
Correct spelling is mainly a matter of habit and observation. To a certain extent it is a matter of careful pronunciation, but this is not always a safe or even a possible guide. The vowels preceding or following the one on which the primary accent falls, sometimes called obscure vowels, are so slurringly pronounced that even a pedantic precision will hardly make it possible to indicate clearly which vowel is used. The writer remembers seeing an examination paper written by a fourth year medical student in which the word fever was spelled fevor. A moment's thought will show that so far as pronunciation is concerned the word might be spelled fevar, fevir, fevor, fever, or fevur without any appreciable difference. The correct spelling is merely a matter of observation.

The author has on his desk at the moment of writing these lines half a dozen good books, each containing a set of rules for spelling. From these it would be easy to compile a set of fairly good rules. Each of these rules, however, has exceptions, in some cases quite numerous. To remember these rules with their exceptions would be a considerable mental task and to apply them would be cumbrous and time consuming. The effort would probably resolve itself into an actual learning of the words which present difficulties. The best way to become a good speller is to form the habit of careful reading, observing the form of every word as it passes before the eye and so unconsciously fixing it in the memory. The dictionary should be consulted whenever there is any doubt.

If you are to write a word, call up a mental picture of it, and if the picture is not perfectly clear go to the dictionary and fix a correct image of it in your mind. Be careful to pronounce every word you use as correctly as possible and you will get all the aid pronunciation can give you. Careless speaking and careless reading are the two great sources of incorrect spelling.
The following tables will be found useful in settling practice with regard to certain troublesome classes of words.

American usage tends to the termination -ize where English usage often sanctions -ise. Use the termination -ise in
advertise
advise
appraise
apprise (to inform)
arise
chastise
circumcise
comprise
compromise
demise
devise
disfranchise
disguise
emprise
enfranchise
enterprise
exercise
exorcise
franchise
improvise
incise
merchandise
premise
reprise
revise
rise
supervise
surmise
surprise

Use the termination -ize or -yze in

```
aggrandize
agonize
analyze
anatomize
anglicize
apologize
apostrophize
apprize (to value)
authorize
baptize
brutalize
canonize
catechize
catholicize
cauterize
centralize
characterize
christianize
civilize
colonize
criticize
crystallize
demoralize
dogmatize
economize
emphasize
epitomize
equalize
eulogize
evangelize
extemporize
familiarize
fertilize
fossilize
fraternize
galvanize
generalize
gormandize
harmonize
immortalize
italicize
```

jeopardize
legalize
liberalize
localize
magnetize
memorialize
mesmerize
metamorphize
methodize
minimize
modernize
monopolize
moralize
nationalize
naturalize
neutralize
organize
ostracize
paralyze
particularize
pasteurize
patronize
philosophize
plagiarize
pulverize
realize
recognize
reorganize
revolutionize
satirize
scandalize
scrutinize
signalize
solemnize
soliloquize
specialize
spiritualize
standardize
stigmatize
subsidize
summarize
syllogize
symbolize
sympathize
tantalize
temporize
tranquilize
tyrannize
universalize
utilize
vaporize
vitalize
vocalize
vulcanize
vulgarize

Use the termination -ible in the following words:

```
accessible
admissible
appetible
apprehensible
audible
cessible
coercible
compatible
competible
comprehensible
compressible
conceptible
contemptible
contractible
controvertible
```

convertible convincible corrigible corrosible corruptible credible decoctible deducible defeasible defensible descendible destructible
digestible
discernible
distensible
divisible
docible
edible
effectible
eligible
eludible
enforcible
evincible
expansible
expressible
extendible
extensible
fallible
feasible
fencible
flexible
forcible
frangible
fusible
gullible
horrible
illegible
immiscible
impassible
intelligible
irascible
legible
miscible
negligible
partible
passible (susceptible)
perceptible
permissible
persuasible
pervertible
plausible
possible
producible
reducible
reflexible
refrangible
remissible
reprehensible
resistible
responsible
reversible
revertible
risible
seducible
sensible
tangible
terrible
transmissible
visible
In all other cases use -able.

The following nouns end in -er.
abetter
abstracter
accepter
adapter
adviser
affirmer
aider
almoner
annoyer
arbiter
assenter
asserter
bailer
caster
censer (vessel)
concocter
condenser
conferrer
conjurer
consulter
continuer
contradicter
contriver
convener
conveyer
corrupter
covenanter
debater
defender
deliberater
deserter
desolater
deviser
discontinuer
disturber
entreater
exalter
exasperater
exciter
executer (except in law)
expecter
frequenter
granter
idolater
imposer
impugner
incenser
inflicter
insulter
interceder
interpreter
interrupter
inviter
jailer
lamenter
mortgager (except in law)
obliger
obstructer
obtruder
perfecter
perjurer
preventer
probationer
propeller
protester
recognizer
regrater
relater
respecter
sailer (ship)
sorcerer
suggester
supplanter
upholder
vender

The following nouns end in -or.
abbreviator
abductor
abettor (law)
abominator
abrogator
accelerator
acceptor
accommodator
accumulator
actor
adjudicator
adjutor
administrator
admonitor
adulator
adulterator
aggregator
aggressor
agitator
amalgamator
animator
annotator
antecessor
apparitor
appreciator
arbitrator
assassinator
assessor
benefactor
bettor
calculator
calumniator
captor
castor (oil)
censor
coadjutor
collector
dilatator
director
dissector
competitor
detractor
conductor
confessor
conqueror
conservator
consignor
denunciator
conspirator
constrictor
constructor
contaminator
contemplator
continuator
contractor
contributor
corrector
councillor
counsellor
covenantor (law)
creator
creditor
cultivator
cunctator
debtor
decorator
delator (law)
denator
der
disseizor
disseminator
distributor
divisor
dominator
donor
effector
elector
elevator
elucidator
emulator
enactor
equivocator
escheator
estimator
exactor
excavator
exceptor
executor (law)
exhibitor
explorator
expositor
expostulator
extensor
extirpator
extractor
fabricator
factor
flexor
fornicator
fumigator
generator
gladiator
governor
grantor (law)
habitator
imitator
impostor
impropriator
inaugurator
inceptor
incisor
inheritor
initiator
innovator
insinuator
institutor
instructor
interlocutor
interpolator
interrogator
inventor
investor
juror
lector
legator
legislator
lessor
mediator
modulator
monitor
mortgagor (law)
multiplicator
narrator
navigator
negotiator
nonjuror
numerator
objector
obligor (law)
observator
operator
originator
pacificator
participator
peculator
percolator
perforator
perpetrator
persecutor
perturbator
possessor
preceptor
precursor
predecessor
predictor
prevaricator
procrastinator
procreator
procurator
professor
progenitor
projector
prolocutor
promulgator
propagator
propitiator
proprietor
prosecutor
protector
protractor
purveyor
recognizor (law)
recriminator
reflector
regenerator
regulator
relator (law)
rotator
sacrificator
sailor (seaman)
scrutator
sculptor
sectator
selector
senator
separator
sequestrator
servitor
solicitor
spectator
spoliator
sponsor
successor
suitor
supervisor
suppressor
surveyor
survivor
testator
tormentor
traitor
transgressor
translator
valuator
vendor (law)
venerator
ventilator
vindicator
violator
visitor

## IV

Words which in their shortest form end in $-d$, -de, -ge, -unit, -rt, -se, -sr, take the ending -sion; e.g., abscind, abscission; include, inclusion; emerge, emersion; remit, remission; infuse, infusion; repress, repression.
All others take the ending -tion.

The following are irregularities:
adhesion
assertion
attention
coercion
cohesion
crucifixion
declension
dimension
dissension
distortion
divulsion
expulsion
impulsion
insertion
intention
occasion
propulsion
recursion
repulsion
revulsion
scansion
suspicion
tension
version

Words ending in -ance, -ence; -ancy, -ency; -ant, and -ent, often cause confusion when carelessly written.

The following is a list of the more common words with the $e$ form.

```
abducent
abhorrence, -ent
abluent
absent, -ence
absorbent
abstergent
abstinence, -ent
adherence, -ent
advertency, -ent
affluence, -ent
antecedence, -ent
apparent
appertinent
appetence, -ency
ardent
benevolence, -ent
circumference
coexistence
coherence, -ent
coincidence, -ent
competence, -ent
concurrence, -ent
condolence
conference
confidence, -ent
confluence, -ent
consentient
consequence
consequent
consistence, -ent
consistency
constituent
continence, -ent
convenience, -ent
corpulence, -ent
correspondence, -ent
currency, -ent
deference
delinquency, -ent
dependence, -ent
deponent
descendent (adj.)
despondency, -ent
difference
```

diffidence, -ent diffluent
efficiency, -ent
eminence, -ency
eminent
excellence, -ency
excellent
existence, -ent
expediency
feculence, -ent
flocculence, -ent
fluency, -ent
fraudulence, -ent
imminence, -ent
impatience, -ent
impellent
imprudence, -ent
impudence, -ent
incipience, -ent
incumbency, -ent
independence, -ent
indolence, -ent
inference
inherence, -ent
intermittent
iridescence, -ent
lambent
latency, -ent
leniency, -ent magniloquence, -ent
malevolence, -ent
mellifluence, -ent
mollient
obedience, -ent
occurrence, -ent
omniscience, -ent
opulence, -ency
opulent
patience, -ent
pendent (adj.)
pendency
penitence, -ent
permanence, -ent
permanency
pertinence, -ent
pestilence, -ent
poculent
portent
potency, -ent
precedence, -ent
preference
prescience, -ent
presence, -ent
presidency, -ent
proficiency, -ent
prominence, -ent
proponent
providence, -ent
prudence, -ent
purulence, -ent
quintessence
recurrence, -ent
reference
refluence, -ent
repellent
residence, -ency
resident
resolvent
resplendence, -ent
respondent
reverence, -ent
sentient
solvency, -ent
somnolency, -ent
subserviency, -ent
subsidence, -ency
subsistence, -ent
succulent
superintendence
superintendency
superintendent
tendence, -ency
transcendence, -ent
transcendency
transference
transient
transparency, -ent
transplendency, -ent
turbulence, -ent
vicegerency, -ent
virulence, -ent
Nearly all other words of this type take the a form.

The instructor should drill the pupils in spelling not only these "catch" words, but a wide range of English words. These lessons may be taken to advantage from some of the books mentioned in the list for supplementary reading, from any other good spelling book, or even from the pages of any well printed book or magazine. The words should be given out orally and written down by the pupil. A good exercise is the reading of a paragraph from any good book, or some stanza of poetry, the passage read to be taken down by the pupil with care to spell, punctuate, and capitalize properly.
A number of topics sometimes treated under the head of spelling will be found discussed in the "Printer's Manual of Style" (No. 41).

## PRONUNCIATION

The English language is a difficult one to pronounce as well as to spell. This arises from two causes. The English language has some sounds not generally found in other languages, such as $w$ and $t h$. As has already been pointed out, the alphabet fits the language very badly. Careful lexicographers indicate no less than seven sounds of $a$, five of $e$, three of $i$, four of $o$ and six of $u$, as shown in the following table:

```
ā as in āle
[Ia] as in sen[Ia]te
ă as in ăm
á as in ásk
[a:] as in [a:]ll
ä as in fäther
(a) as in fin(a)l
è as in ēve
ĕ as in ĕnd
[Ie] as in ev[Ie]nt
ẽ as in fẽrn
(e) as in prud(e)nce
i ias in īce
[Ii] as in [Ii]dea
i as in pin
o as in ōld
[Io] as in [Io]pen
ŏ as in ŏdd
ô as in ôrb
ū as in ūse
[Iu] as in [Iu]nite
ŭ as in ŭp
[u:] as in r[u:]de
[u=] as in f[u=]ll
û as in ûrn
```

In addition to these there are diphthongs, combinations of vowel sounds pronounced as one syllable, such as
ou as in out
$o i$ as in oil
There are also a number of digraphs or combinations of vowels or consonants which have but one sound, such as

> ai as in rain
> $e o$ as in people
> $o u$ as in soup
> $o u$ as in soul
> ph as in phalanx
> $c h$ as in chorus or chair
$C$ has two sounds, hard before $a, o$, and $u$, as in cat, cot, and cut, and soft before $e, i$, and $y$, as in cell, city, and cycle.
$G$ has two sounds, hard before $a, o$, and $u$, as in gate, gone, and gun, soft before $e, i$, and $y$, as in gem, gin, and gyve, although it is sometimes hard before $i$ as in girl.
Ch is sometimes soft as in chair and arch, and sometimes hard as in choir.
Th has two sounds, soft, or surd, as in thin and death, and hard, or sonant, as in then and smooth.
$S$ has two sounds, soft, or surd, as in soft and this, and hard, or sonant, as in has and wise.
We have, therefore, twenty-six letters with which to express fifty or more sounds, not counting the digraphs and diphthongs.
Correct pronunciation depends upon three things, correct sounding of the letters, correct division into syllables, and correct placing of the accent.

A syllable is the smallest separately articulated, or pronounced, element in speech, or one of the parts into which speech is broken. It consists of a vowel alone or accompanied by one or more consonants and separated by them, or by a pause, from a preceding or following vowel. This division of words into syllables is indicated in dictionaries by the use of the hyphen thus: sub-traction, co-or-din-ate. It will be observed that in the first of these examples the vowels are all separated by consonants, while in the second two of them are separated by a pause only.

The English language has the further peculiarity of using $l$ and $n$ as vowels in syllabication, as in middle (mid-dl) and reck-on (reck-n).
The division of words into syllables for pronunciation is generally, but not always, the same as that which should be followed in case the word has to be divided typographically. As these text-books are intended to help the apprentice as a speaker and writer of English as well as a printer, it is worth while to give some attention to syllabication for pronunciation before proceeding to discuss typographical division.

The illustrations from this point to the end of this section on page 16 are not typographic divisions. They concern pronunciation only.

Two letters forming a diphthong or digraph are not to be separated. Coin-age (oi diphthong) but co-in-ci-dence (oi not a diphthong). Excess (ss digraph, pronounced practically like a single s) gives ex-cess-es, ex-cess-ive, etc. Whether or not the letters thus occurring together form a diphthong or digraph will depend on the derivation of the word, thus in cat-head (verb), a nautical term, th is not a digraph but in ca-the-dral th is a digraph, as is usually the case with these two letters. You would not say cat-hed-ral.
Two vowels, or a vowel and a diphthong, coming together but sounded separately belong to separate syllables.

A-or-ta, co-op-er-ate, but coop-er-age, moi-e-ty.
Do not end a syllable with
(a) $c$ or $g$ when soft, en-ti-cing, but dic-tion, wa-ges but wag-on.
(b) $t, s, z, c, s c, g$, and $d$, when followed by $i$ or $e$ giving the sound of sh; ra-tion-al, o-cean, re-gion, as-cen-sion.
(c) $d, s, t$, and $z$ when followed by $u$ giving the sound of $c h, s h, z h$, or $j$, cen-sure, sei-zure, na-ture, ver-dure.
Do not begin a syllable with
(a) $x$ with the sound of $k s$ or $g s$, anx-ious, ex-act-ly.
(b) $r$ preceded by a or e; par-ent, av-er-age, but by exception, pa-rent-al.
(c) Single $l, n$, or $v$, followed by $i$ with the sound of $y$ consonant; fol-io (fol-yo), genius (gen-yus), sav-ior (sav-yor).
Prefixes and suffixes are generally separated, yel-low-ish, eat-able, pre-lude. This last word is sometimes pronounced prel-ude and this pronunciation has some dictionary support, but it is objectionable.
A consonant or digraph between two sounded vowels usually joins the following vowel, rea-son,
no-ti-fy, mo-ther.
When two or three consonants capable of beginning a syllable come between two sounded vowels they may all be joined to the following vowel.
(a) When the preceding vowel is long and accented; en-a-bling, He-brew, i-dler.
(b) When the following vowel is an accented syllable; o-blige, re-dress.

When two or three consonants capable of beginning a syllable come between two sounded vowels one may be joined to the preceding vowel.
(a) When the vowel is short; tab-let, res-cue, mus-ket.
(b) When the consonants are $s t$, str, or $s p$, if either the preceding or following vowel is accented; mis-tress, aus-tere, oys-ter, sus-pect.

When a consonant is doubled (not forming a digraph) the two are generally separated; beg-gar, bril-liant, cun-ning.

The old-fashioned method of oral spelling by syllables m-a-s-mas-t-e-r-ter-master will be found extremely useful in teaching correct syllabication. It is recommended that constant use be made of it in spelling drill.

## ACCENT

When a word consists of two syllables one of them receives more stress of voice than the other. This stress of voice is called accent. If the word consists of three or more syllables there is usually another syllable stressed in somewhat less degree. This is called a secondary accent. In some cases there may even be a third accent if the word is very long; In'-come, val-e-tu'-di-na'-ri$a n$. This fact arises from the tendency natural to all human speech to take more or less musical forms. The monotony of a series of stressed or of unstressed sounds would be unbearable. The pronunciation of such a series would be a highly artificial and very difficult performance. Correct pronunciation is very greatly concerned with the proper placing of the accent. Indeed the meaning of a familiar word may be quite obscured by a misplaced accent. For example, he-red'-itary is a very familiar word, but when pronounced he-red-it'-ary, as it was habitually by a friend of the author, we have to stop and think before catching the meaning.
The placing of the accent in English is subject to two general rules.
I The accent clings to the syllable which gives the meaning to the word, or in technical terms, the root syllable, re-call', in-stall', in-stal-la'-tion (accent falling on the syllable which defines the word as a noun), in-her'-it.

II Where the root syllable is not known the accent falls on the first syllable, with secondary accents following at intervals to relieve the voice.
This last tendency not infrequently supersedes the other, partly from the natural habit of the language, and partly because the average man is not an etymologist and knows very little about the derivation of the words he uses. For example, in Shakespeare's time English people followed the first rule and said re-ven'-ue, but now we say rev'-e-nue.

These two rules will serve as a good general guide to accent. Attention should be paid to the pronunciation of good speakers, and care taken to follow it. In case of doubt the dictionary should be consulted and the proper accent carefully fixed in the mind.

## DIVISION OF WORDS

When the words do not fit the line what shall we do? The early printers used only one kind of spaces. In setting a line of type they proceeded until there was no room in the line for the next complete word of the copy. Then they filled out the line with spaces and began the next word on the next line. The length of the register being known in advance and nothing but spaces being used in setting the line, the compositor was spared much that makes composition at once a hard labor and a fine art. The result was an irregular margin at the right such as we now see in typewritten letters.

With improvements in types and typography the squaring out of the page soon came into fashion. In many cases this can be done by the careful use of spaces so as to bring a certain number of words squarely out to the end of the line. There have been printers who have insisted that this should always be done. Their efforts have not, however, been successful. They result in a freakish looking page with white spots in the lines where letters or words have been spaced out to fill the register. It would be better, on the whole, to resort to the practice of the old masters and leave the right-hand margin irregular.

Ordinarily the difficulty has been met by dividing words and putting a part of a word on one line and the rest of it on another, indicating the break by a hyphen. The hyphen in such a case is always the closing character in the first line. Clearly this division must be so made as to assist the reader in his task. The primary purpose of all printing is to be read. Anything that adds to the legibility of the printing improves it; anything that detracts from its legibility harms it. How can we so divide words that the legibility and intelligibility of the text will be maintained, the line justified to register, and the beauty of the page enhanced? These ends-legibility, intelligibility, and beauty-are the aims of all the rules which have been devised for the division of words. These are the things the reader will see and by them he will judge the results. He will probably know nothing about the rules by which the compositor gains his results. The compositor needs to know the rules, but to remember always that they are only means by which to secure results.

There have been several attempts to devise systems of division, but no one of them is thoroughly consistent or universally adopted.

One system requires the division of a word when the pronunciation will permit on the vowel at the end of the syllable. It has the defect of making no provision for syllables that end in consonants. Moreover, if rigorously applied it would give us such divisions as ca-pa-ci-ty, cata-stro-phe, lexi-co-gra-pher, pre-fe-rence, pro-gno-sti-cate, and re-co-gnize.

Another system requires the division of consolidated words at the junction of their elements, for example:

```
magn-animous
cata-clysm
found-ation
oceano-graphy
theo-logy
know-ledge
lexi-co-grapher
in-fer-ence
pre-judice
pro-gnos-ticate
pro-position
typo-graphy
```

In some cases this rule would lead to queer looking divisions. More serious objections are that the system does not provide for words that are long enough to be divided but are yet not consolidated words, and, most of all, that the average compositor is not an accomplished etymologist and knows very little about the derivation, make up, and compounding of the words he has to set up. He may be familiar, for example with the word rheostat, but it would puzzle him to tell from what language it is derived, while the word enclave would probably send him to the dictionary for meaning as well as derivation, unless he happened to be used to one particular kind of writing.
Another system, and probably on the whole the best one, requires the division of the word on the accented syllable.

```
theol-ogy
catas-trophe
geog-raphy
lexi-cog-rapher
pref-erence
prog-nos-ticate
```

It will be noted that some of these examples show division in more than one place, that is on the syllables which bear either the primary or the secondary accent. This rule does not provide for the cases when the division must come on an unaccented syllable. The cases, however, when the division cannot be made to come on either the syllable bearing the primary accent or one bearing a secondary accent will be comparatively few.

## RULES FOR DIVISION OF WORDS

I The general rule, then, is to divide according to pronunciation, not according to etymology or any hard and fast rule.

As far as possible, consistently with pronunciation and good spacing, divide according to meaning and derivation, where known.
un-even, not une-ven, auto-mobile, not automo-bile, en-abled, not ena-bled.
II Divide on a vowel wherever practicable. In case a vowel alone forms a syllable in the middle of a word it should be run into the first line.
criti-cism
particu-lar
colo-nies
dou-ble
pro-gress
pro-duct
noi-sy
wo-man
pa-tron
me-moir
III When two consonants meet between vowels, and the syllable ends on one consonant, the division may properly be made between the consonants, the pronunciation determining the place of division.
advan-tage
plain-tiff
Wil-liam
exces-sive
scur-rilous
mas-ter
gram-mar
profes-sor
moun-tain
IV When three consonants come together between two vowels the first of which is short, the division comes after the first consonant.

```
han-dle
chil-dren
frus-trate
```

V A single consonant between two vowels should be joined to the first vowel, if it is short; if the first vowel is long the consonant goes with the second.

```
riv-er
ri-val
```

VI Diphthongs should not be divided.

```
peo-ple
```

Cae-sar

VII Words compounded with a prefix should preferably be divided on the prefix.

```
dis-avow
in-herit
un-concern
```

VIII The terminations -able, -ible, -tion, -cial, -tive, and -ive should go over to the next line.
read-able
convert-ible
inten-tion
discuss-ion
The termination -sion ordinarily goes over as in
occa-sion
apprehen-sion
cis-sion
declen-sion
Occasionally, however, the strong emphasis needed for the $s$ will call for a different arrangement, as in divis-ion.
IX The terminations -ing, -en, -ed, -er, -est, and the plural -es go over to the next line except when the preceding consonant is doubled, or when they follow $c$ or $g$ soft.

```
lead-ing
beat-en
larg-er, but
lat-ter
for-cing
ran-ging
```

X Do not end a line with $j$ or with $c$ or $g$ soft.

```
pro-cess
```

ne-cessary
pre-judice
prog-eny

XI Adjectives in ical divide on the $i$.
physi-cal
inimi-cal
XII In derivatives of words ending in $-t$, the division follows the accent.
objec-tion, not object-ion, defec-tion, not defect-ion, but respec-tively, not respect-ively and distinc-tion, not distinct-ion.

XIII Never separate $c$ and $g$ from the vowels $e, i$, and $y$ upon which their soft sound depends.
re-li-gion
ca-pa-ci-ty
XIV Never separate $q$ from $u$, $q u$ is a single sound.
XV Do not divide nothing.
XVI Do not divide words of four letters.
XVII Do not divide words of five or six letters if it can be avoided. Good spacing, however, must be considered of first importance.
XVIII In wide measures ( 20 ems or more) do not divide so as to end or begin a line with a syllable of two letters. Here again, however, good spacing is the first consideration.
XIX Do not divide words of two syllables pronounced as one, including past participles of short words.
heaven
power
prayer
beamed
often
XX Avoid additional hyphens in hyphenated words if possible.

## object-lesson

fellow-being
poverty-stricken
XXI Do not separate a divisional mark (a), (1) from the matter to which it pertains.
XXII Do not divide an amount stated in figures.
XXIII Do not divide proper names, especially those of persons, if it can be avoided.
XXIV Do not divide initials or such combinations as a.m., B.C.
XXV Do not divide the last word on a page so as to carry a part of it to the next page.
XXVI Do not divide the last word of the last full line of a paragraph.
XXVII More than two divisions in successive lines should be avoided.
XXVIII Never divide at all if you can help it.

## IMPORTANCE OF SPACING

It must always be remembered that good spacing is the first consideration. Nothing is more offensive to the eye of a good judge of printing than bad spacing. "Rivers" of white, dark spots, crowded black text, are very serious blemishes to a page. An ordinary book page is a study in color, the colors employed being black and white. Proper combination, balance, and proportion are as important here as in places where a variety of colors is employed. Many of the foregoing rules must be held subject to the exigencies of proper spacing. A rigid adherence, for example, to the rule that not more than two consecutive lines should end with divided words will not justify a badly spaced, unsightly line. There are many things that look worse than a hyphen at the end of the last full line in a paragraph. Avoidance of dividing the last word on a page, however, would justify even bad spacing, because of the gain to the reader. In the last resort, the interests of the reader must always have first consideration.
Division is greatly affected by the length of the measure. A long measure, 18 or 20 ems or more, gives greater opportunity for arranging the spacing, but, on the other hand, makes division on short syllables conspicuous and out of proportion. Very short register, as in two-column Bibles or in cases where illustrations are inserted in the text, presents very great difficulties and often calls for division which would not be allowable elsewhere. Such cases often call for the exercise of the greatest care and ingenuity.
It often happens that the author can be of great assistance to the printer in making a handsome
page. A change of a phrase, or even of a word will avoid a difficulty which cannot be avoided by a printer except at the cost of bad division or bad spacing. If the author is a sensible person he will gladly cooperate with the printer in giving his thoughts clothing appropriate to their intrinsic beauty and value. After the printer has exhausted his resources he should not hesitate to carry his troubles to the author.

## DIVISION IN LINES OF DISPLAY

As a rule division is never used in lines of display. In these cases the display is the important thing. Every word long enough to be divided is important enough to be displayed and emphasized. Divided words are weakened words. Lines of irregular lengths are used of set purpose.

In title pages words of bold display must never be divided. In minor lines of display, such as subtitles and summaries, words are often divided. A subheading of two lines should never be divided in the first line when it is possible to turn the full word over on to the next line. The shortening of the first line is never a blemish, but a too short second line following a hyphened first line is always a fault.

There is a school of ultra-artistic composition in book titles which affects a solid squaring up and hesitates at no means to secure its effects. It sets a definite measure and forces the lines into it, dividing words arbitrarily and using no hyphen. This is a passing fancy and will pass as eccentricities always pass. It should not be used unless the author insists upon it. The man who pays the bills has a right to have his work done as he pleases. The intelligent printer, however, will not allow the peculiarities of the individual customer to affect his general practice.

## Note

The pupil is referred to the appendix to DeVinne's "Correct Composition" for rules for the division of French, German, and Spanish words. The same appendix contains also a very excellent list of words which are spelled differently by different authorities, together with divisions for them.

## SUPPLEMENTARY READING

Correct Composition. By Theodore L. DeVinne. Oswald Publishing Co., New York. The Writer's Desk Book. By William Dana Orcutt. Frederick A. Stokes Co., New York.<br>A Manual for Writers. By John Matthews Manly and John Arthur Powell. The University of Chicago Press, Chicago.<br>Worcester's New Pronouncing Spelling Book. The American Book Company, New York.<br>The Art of Writing and Speaking the English Language: Dictionary of Errors. By Sherwin Cody. The Old Greek Press, Chicago.

(This is one of a series of six very excellent but inexpensive little books bearing the same general title and by the same author. They will be found very useful in connection with Part VI of the Typographic Technical Series generally.)

## QUESTIONS

1. Is the spelling of English standardized?
2. How long have we considered correct spelling important?
3. What two causes exist for difficulties in spelling?
4. What are the principal English authorities?
5. What are the principal American authorities?
6. How are these authorities used in printing offices?
7. What are the rights and duties of the author in the matter of spelling?
8. What may be done in matter of "reformed" spelling?
9. What is a safe attitude for the commercial printer toward "reformed" spelling, and why?
10. On what does correct spelling mainly depend?
11. What is the best way to become a good speller?
12. Why is English difficult to pronounce?
13. What is a diphthong?
14. What is a digraph?
15. What are the two sounds each of $c, g$, $d e, t h$, and $s$ ? Give examples of each.
16. How many letters are there in the English alphabet and how many sounds do they express?
17. Upon what does correct pronunciation depend?
18. What is a syllable, and of what does it consist?
19. What peculiar use is made of $l$ and $n$ in English?
20. How do we treat the parts of a diphthong or digraph?
21. How do we know whether or not these compounds are diphthongs or digraphs?
22. What about vowel combinations?
23. With what should a syllable not end?
24. With what should a syllable not begin?

25 . What is the rule regarding prefixes and suffixes?
26. How do we treat two or three consonants capable of beginning a syllable?
27. How do we treat two or three consonants capable of ending a syllable?
28. How do we treat doubled consonants?
29. What is accent?
30. Do words ever have more than one accent, and why?
31. What are the two general rules for the placing of accent?
32. What did the early printers do when the words did not fit the line, and why?
33. What practice came into use later?
34. What methods of doing this have been devised?
35. What considerations govern practice in this regard?
36. Give two systems of division which have been proposed.
37. What is the general rule for division?
38. What is the rule about vowels?
39. What is the rule about two consonants?
40. What is the rule about three consonants?
41. What should you do with a single consonant between two vowels?
42. How should you treat diphthongs?
43. What is the rule for words compounded with a prefix?
44. What should be done with the terminations -able, -ible, -tion, -cial, -tive, -ive, and -sion?
45. What should be done with the terminations -ing, -en, -ed, -er, and -est, and the plural -es?
46. What letters should not end a line?
47. How are adjectives in ical treated?
48. How are derivatives of words ending in $-t$ treated?
49. What is the special rule about $c$ and $g$ ?
50. What is the rule about $q u$, and why?
51. What is the rule about nothing?
52. What is the rule about words of four letters?
53. How should you treat words of five or six letters?
54. What should be avoided in wide measures?
55. How should you treat words of two syllables pronounced as one?
56. How should hyphenated compounds be treated?
57. What should you do with divisional marks?
58. How should you treat amounts stated in figures?
59. How should you treat proper names?
60. How are initials and similar combinations treated?
61. What is the rule about the last word on a page?
62. What is the rule about the last word of the last full line of a paragraph?
63. What is the rule about divisions in successive lines?

64 . What is the rule about division generally?
65. What effect has spacing on deciding about division?
66. What effect has length of measure on division?
67. What can you do when the text presents unusual difficulty as to spacing and division?
68. What is the rule about division in lines of display, and what is the reason for it?
69. What is the usage with regard to division on title pages?
70. What can you say about eccentricities in the author's or customer's ideas about division and lay-out?

As in the other volumes of this Part, the instructor should not content himself with having the student learn the rules. He should give drills in spelling and pronunciation and should give problems in composition involving the application of rules. Constant and prolonged practice is indispensable to proficiency in all these matters.

## TYPOGRAPHIC TECHNICAL SERIES FOR APPRENTICES

The following list of publications, comprising the Typographic Technical Series for Apprentices, has been prepared under the supervision of the Committee on Education of the United Typothetae of America for use in trade classes, in course of printing instruction, and by individuals.

Each publication has been compiled by a competent author or group of authors, and carefully edited, the purpose being to provide the printers of the United States-employers, journeymen, and apprentices-with a comprehensive series of handy and inexpensive compendiums of reliable, up-to-date information upon the various branches and specialties of the printing craft, all arranged in orderly fashion for progressive study.
The publications of the series are of uniform size, $5 \times 8$ inches. Their general make-up, in typography, illustrations, etc., has been, as far as practicable, kept in harmony throughout. A brief synopsis of the particular contents and other chief features of each volume will be found under each title in the following list.

Each topic is treated in a concise manner, the aim being to embody in each publication as completely as possible all the rudimentary information and essential facts necessary to an understanding of the subject. Care has been taken to make all statements accurate and clear, with the purpose of bringing essential information within the understanding of beginners in the different fields of study. Wherever practicable, simple and well-defined drawings and illustrations have been used to assist in giving additional clearness to the text.

In order that the pamphlets may be of the greatest possible help for use in trade-school classes and for self-instruction, each title is accompanied by a list of Review Questions covering essential items of the subject matter. A short Glossary of technical terms belonging to the subject or department treated is also added to many of the books.

These are the Official Text-books of the United Typothetae of America.
Address all orders and inquiries to Committee on Education, United Typothetae of America, Chicago, Illinois, U.S.A.

PART I-Types, Tools, Machines, and Materials

1. Type: a Primer of Information

By A.A. Stewart
Relating to the mechanical features of printing types; their sizes, font schemes, etc., with a brief description of their manufacture. 44 pp .; illustrated; 74 review questions; glossary.

## 2. Compositors' Tools and Materials

A primer of information about composing sticks, galleys, leads, brass rules, cutting and mitering machines, etc. 47 pp.; illustrated; 50 review questions; glossary.

## 3. Type Cases, Composing Room Furniture

By A.A. Stewart
A primer of information about type cases, work stands, cabinets, case racks, galley racks, standing galleys, etc. 43 pp.; illustrated; 33 review questions; glossary.
4. Imposing Tables and Lock-up Appliances

By A.A. Stewart
Describing the tools and materials used in locking up forms for the press, including some modern utilities for special purposes. 59 pp.; illustrated; 70 review questions; glossary.

## 5. Proof Presses

By A.A. Stewart
A primer of information about the customary methods and machines for taking printers' proofs. 40 pp.; illustrated; 41 review questions; glossary.
6. Platen Printing Presses

By Daniel Baker
A primer of information regarding the history and mechanical construction of platen printing presses, from the original hand press to the modern job press, to which is added a chapter on automatic presses of small size. 51 pp.; illustrated; 49 review questions; glossary.
7. Cylinder Printing Presses

By Herbert L. Baker
Being a study of the mechanism and operation of the principal types of cylinder printing machines. 64 pp.; illustrated; 47 review questions; glossary.

## 8. Mechanical Feeders and Folders

By William E. Spurrier
The history and operation of modern feeding and folding machines; with hints on their care and adjustments. Illustrated; review questions; glossary.
9. Power for Machinery in Printing Houses

By Carl F. Scott
A treatise on the methods of applying power to printing presses and allied machinery with particular reference to electric drive. 53 pp.; illustrated; 69 review questions; glossary.
10. Paper Cutting Machines

By Niel Gray, Jr.
A primer of information about paper and card trimmers, hand-lever cutters, power cutters, and other automatic machines for cutting paper, 70 pp.; illustrated; 115 review questions; glossary.
11. Printers' Rollers

By A.A. Stewart
A primer of information about the composition, manufacture, and care of inking rollers. 46 pp.; illustrated; 61 review questions; glossary.

## 12. Printing Inks

By Philip Ruxton
Their composition, properties and manufacture (reprinted by permission from Circular No. 53, United States Bureau of Standards); together with some helpful suggestions about the everyday use of printing inks by Philip Ruxton. 80 pp.; 100 review questions; glossary.
13. How Paper is Made

By William Bond Wheelwright
A primer of information about the materials and processes of manufacturing paper for printing and writing. 68 pp.; illustrated; 62 review questions; glossary.
14. Relief Engravings

By Joseph P. Donovan
Brief history and non-technical description of modern methods of engraving; woodcut, zinc plate, halftone; kind of copy for reproduction; things to remember when ordering engravings. Illustrated; review questions; glossary.

## 15. Electrotyping and Stereotyping

By Harris B. Hatch and A.A. Stewart
A primer of information about the processes of electrotyping and stereotyping. 94 pp.; illustrated; 129 review questions; glossaries.

## PART II—Hand and Machine Composition

## 16. Typesetting

By A.A. Stewart
A handbook for beginners, giving information about justifying, spacing, correcting,
and other matters relating to typesetting. Illustrated; review questions; glossary.

## 17. Printers' Proofs

By A.A. Stewart
The methods by which they are made, marked, and corrected, with observations on proofreading. Illustrated; review questions; glossary.

## 18. First Steps in Job Composition

By Camille DeVéze
Suggestions for the apprentice compositor in getting his first jobs, especially about the important little things which go to make good display in typography. 63 pp .; examples; 55 review questions; glossary.

## 19. General Job Composition

How the job compositor handles business stationery, programs and miscellaneous work. Illustrated; review questions; glossary.

## 20. Book Composition

By J.W. Bothwell
Chapters from DeVinne's "Modern Methods of Book Composition," revised and arranged for this series of text-books by J.W. Bothwell of The DeVinne Press, New York. Part I: Composition of pages. Part II: Imposition of pages. 229 pp.; illustrated; 525 review questions; glossary.

## 21. Tabular Composition

By Robert Seaver
A study of the elementary forms of table composition, with examples of more difficult composition. 36 pp.; examples; 45 review questions.

## 22. Applied Arithmetic

By E.E. Sheldon
Elementary arithmetic applied to problems of the printing trade, calculation of materials, paper weights and sizes, with standard tables and rules for computation, each subject amplified with examples and exercises. 159 pp .

## 23. Typecasting and Composing Machines <br> A.W. Finlay, Editor

Section I-The Linotype
Section II-The Monotype
Section III-The Intertype
Section IV—Other Typecasting and Typesetting Machines
By L.A. Hornstein
By Joseph Hays

By Frank H. Smith
A brief history of typesetting machines, with descriptions of their mechanical principles and operations. Illustrated; review questions; glossary.

> PART III—Imposition and Stonework

## 24. Locking Forms for the Job Press

By Frank S. Henry
Things the apprentice should know about locking up small forms, and about general work on the stone. Illustrated; review questions; glossary.
25. Preparing Forms for the Cylinder Press

By Frank S. Henry
Pamphlet and catalog imposition; margins; fold marks, etc. Methods of handling type forms and electrotype forms. Illustrated; review questions; glossary.

## PART IV—Presswork

26. Making Ready on Platen Presses

By T.G. McGrew
The essential parts of a press and their functions; distinctive features of commonly used machines. Preparing the tympan, regulating the impression, underlaying and overlaying, setting gauges, and other details explained. Illustrated; review questions; glossary.
27. Cylinder Presswork

By T.G. McGrew
Preparing the press; adjustment of bed and cylinder, form rollers, ink fountain, grippers and delivery systems. Underlaying and overlaying; modern overlay methods. Illustrated; review questions; glossary.
28. Pressroom Hints and Helps

By Charles L. Dunton
Describing some practical methods of pressroom work, with directions and useful information relating to a variety of printing-press problems. 87 pp.; 176 review questions.

## 29. Reproductive Processes of the Graphic Arts

By A.W. Elson
A primer of information about the distinctive features of the relief, the intaglio, and
the planographic processes of printing. 84 pp.; illustrated; 100 review questions; glossary.

PART V—Pamphlet and Book Binding

## 30. Pamphlet Binding

By Bancroft L. Goodwin
A primer of information about the various operations employed in binding pamphlets and other work in the bindery. Illustrated; review questions; glossary.

## 31. Book Binding

By John J. Pleger
Practical information about the usual operations in binding books; folding; gathering, collating, sewing, forwarding, finishing. Case making and cased-in books. Hand work and machine work. Job and blank-book binding. Illustrated; review questions; glossary.

## PART VI—Correct Literary Composition

## 32. Word Study and English Grammar <br> By F.W. Hamilton

A primer of information about words, their relations, and their uses. 68 pp.; 84 review questions; glossary.

## 33. Punctuation

By F.W. Hamilton
A primer of information about the marks of punctuation and their use, both grammatically and typographically. 56 pp.; 59 review questions; glossary.

## 34. Capitals

By F.W. Hamilton
A primer of information about capitalization, with some practical typographic hints as to the use of capitals. 48 pp .; 92 review questions; glossary.
35. Division of Words

By F.W. Hamilton
Rules for the division of words at the ends of lines, with remarks on spelling, syllabication and pronunciation. 42 pp.; 70 review questions.
36. Compound Words

By F.W. Hamilton
A study of the principles of compounding, the components of compounds, and the use of the hyphen. 34 pp.; 62 review questions.

## 37. Abbreviations and Signs

By F.W. Hamilton
A primer of information about abbreviations and signs, with classified lists of those in most common use. 58 pp.; 32 review questions.
38. The Uses of Italic

By F.W. Hamilton
A primer of information about the history and uses of italic letters. 31 pp.; 37 review questions.
39. Proofreading

By Arnold Levitas
The technical phases of the proofreader's work; reading, marking, revising, etc.; methods of handling proofs and copy. Illustrated by examples. 59 pp.; 69 review questions; glossary.
40. Preparation of Printers' Copy

By F.W. Hamilton
Suggestions for authors, editors, and all who are engaged in preparing copy for the composing room. 36 pp.; 67 review questions.

## 41. Printers' Manual of Style

A reference compilation of approved rules, usages, and suggestions relating to uniformity in punctuation, capitalization, abbreviations, numerals, and kindred features of composition.
42. The Printer's Dictionary

By A.A. Stewart
A handbook of definitions and miscellaneous information about various processes of printing, alphabetically arranged. Technical terms explained. Illustrated.

PART VII—Design, Color, and Lettering

A handbook of the principles of arrangement, with brief comment on the periods of
design which have most influenced printing. Treats of harmony, balance, proportion, and rhythm; motion; symmetry and variety; ornament, esthetic and symbolic. 37 illustrations; 46 review questions; glossary; bibliography.

## 44. Elements of Typographic Design

By Harry L. Gage
Applications of the principles of decorative design. Building material of typography paper, types, ink, decorations and illustrations. Handling of shapes. Design of complete book, treating each part. Design of commercial forms and single units. Illustrations; review questions, glossary; bibliography.

## 45. Rudiments of Color in Printing

By Harry L. Gage
Use of color: for decoration of black and white, for broad poster effect, in combinations of two, three, or more printings with process engravings. Scientific nature of color, physical and chemical. Terms in which color may be discussed: hue, value, intensity. Diagrams in color, scales and combinations. Color theory of process engraving. Experiments with color. Illustrations in full color, and on various papers. Review questions; glossary; bibliography.
46. Lettering in Typography

By Harry L. Gage
Printer's use of lettering: adaptability and decorative effect. Development of historic writing and lettering and its influence on type design. Classification of general forms in lettering. Application of design to lettering. Drawing for reproduction. Fully illustrated; review questions; glossary; bibliography.

## 47. Typographic Design in Advertising

By Harry L. Gage
The printer's function in advertising. Precepts upon which advertising is based. Printer's analysis of his copy. Emphasis, legibility, attention, color. Method of studying advertising typography. Illustrations; review questions; glossary; bibliography.

## 48. Making Dummies and Layouts

By Harry L. Gage
A layout: the architectural plan. A dummy: the imitation of a proposed final effect. Use of dummy in sales work. Use of layout. Function of layout man. Binding schemes for dummies. Dummy envelopes. Illustrations; review questions; glossary; bibliography.

## PART VIII—History of Printing

## 49. Books Before Typography

By F.W. Hamilton
A primer of information about the invention of the alphabet and the history of bookmaking up to the invention of movable types. 62 pp .; illustrated; 64 review questions.

## 50. The Invention of Typography

By F.W. Hamilton
A brief sketch of the invention of printing and how it came about. 64 pp.; 62 review questions.

## 51. History of Printing-Part I

By F.W. Hamilton
A primer of information about the beginnings of printing, the development of the book, the development of printers' materials, and the work of the great pioneers. 63 pp.; 55 review questions.

## 52. History of Printing-Part II

By F.W. Hamilton
A brief sketch of the economic conditions of the printing industry from 1450 to 1789, including government regulations, censorship, internal conditions and industrial relations. 94 pp.; 128 review questions.
53. Printing in England

By F.W. Hamilton
A short history of printing in England from Caxton to the present time. 89 pp.; 65 review questions.
54. Printing in America

By F.W. Hamilton
A brief sketch of the development of the newspaper, and some notes on publishers who have especially contributed to printing. 98 pp.; 84 review questions.
55. Type and Presses in America

By F.W. Hamilton
A brief historical sketch of the development of type casting and press building in the United States. 52 pp.; 61 review questions.

## 56. Elements of Cost in Printing

By Henry P. Porter
The Standard Cost-Finding Forms and their uses. What they should show. How to utilize the information they give. Review questions. Glossary.
57. Use of a Cost System

By Henry P. Porter
The Standard Cost-Finding Forms and their uses. What they should show. How to utilize the information they give. Review questions. Glossary.
58. The Printer as a Merchant

By Henry P. Porter
The selection and purchase of materials and supplies for printing. The relation of the cost of raw material and the selling price of the finished product. Review questions. Glossary.
59. Fundamental Principles of Estimating By Henry P. Porter The estimator and his work; forms to use; general rules for estimating. Review questions. Glossary.
60. Estimating and Selling By Henry P. Porter

An insight into the methods used in making estimates, and their relation to selling. Review questions. Glossary.
61. Accounting for Printers By Henry P. Porter

A brief outline of an accounting system for printers; necessary books and accessory records. Review questions. Glossary.

## PART X—Miscellaneous

62. Health, Sanitation, and Safety

By Henry P. Porter
Hygiene in the printing trade; a study of conditions old and new; practical suggestions for improvement; protective appliances and rules for safety.

## 63. Topical Index

By F.W. Hamilton
A book of reference covering the topics treated in the Typographic Technical Series, alphabetically arranged.
64. Courses of Study

By F.W. Hamilton
A guidebook for teachers, with outlines and suggestions for classroom and shop work.

## ACKNOWLEDGMENT

This series of Typographic Text-books is the result of the splendid co-operation of a large number of firms and individuals engaged in the printing business and its allied industries in the United States of America.

The Committee on Education of the United Typothetae of America, under whose auspices the books have been prepared and published, acknowledges its indebtedness for the generous assistance rendered by the many authors, printers, and others identified with this work.

While due acknowledgment is made on the title and copyright pages of those contributing to each book, the Committee nevertheless felt that a group list of co-operating firms would be of interest.

The following list is not complete, as it includes only those who have co-operated in the production of a portion of the volumes, constituting the first printing. As soon as the entire list of books comprising the Typographic Technical Series has been completed (which the Committee hopes will be at an early date), the full list will be printed in each volume.

The Committee also desires to acknowledge its indebtedness to the many subscribers to this Series who have patiently awaited its publication.

Committee on Education, United Typothetae of America.

## CONTRIBUTORS

## For Composition and Electrotypes

Isaac H. Blanchard Company, New York, N.Y. S.H. Burbank \& Co., Philadelphia, Pa.
J.S. Cushing \& Co., Norwood, Mass.

The DeVinne Press, New York, N.Y.
R.R. Donnelley \& Sons Co., Chicago, Ill.

Geo. H. Ellis Co., Boston, Mass.
Evans-Winter-Hebb, Detroit, Mich.
Franklin Printing Company, Philadelphia, Pa.
F.H. Gilson Company, Boston, Mass.

Stephen Greene \& Co., Philadelphia, Pa.
W.F. Hall Printing Co., Chicago, Ill.
J.B. Lippincott Co., Philadelphia, Pa.

McCalla \& Co. Inc., Philadelphia, Pa.
The Patteson Press, New York, New York
The Plimpton Press, Norwood, Mass.
Poole Bros., Chicago, Ill.
Edward Stern \& Co., Philadelphia, Pa.
The Stone Printing \& Mfg. Co., Roanoke, Va.
C.D. Traphagen, Lincoln, Neb.

The University Press, Cambridge, Mass.

## For Composition

Boston Typothetae School of Printing, Boston, Mass.
William F. Fell Co., Philadelphia, Pa.
The Kalkhoff Company, New York, N.Y.
Oxford-Print, Boston, Mass.
Toby Rubovits, Chicago, Ill.

## For Electrotypes

Blomgren Brothers Co., Chicago, Ill.
Flower Steel Electrotyping Co., New York, N.Y.
C.J. Peters \& Son Co., Boston, Mass.

Royal Electrotype Co., Philadelphia, Pa.
H.C. Whitcomb \& Co., Boston, Mass.

## For Engravings

American Type Founders Co., Boston, Mass.
C.B. Cottrell \& Sons Co., Westerly, R.I.

Golding Manufacturing Co., Franklin, Mass.
Harvard University, Cambridge, Mass.
Inland Printer Co., Chicago, Ill.
Lanston Monotype Machine Company, Philadelphia, Pa.
Mergenthaler Linotype Company, New York, N.Y.
Geo. H. Morrill Co., Norwood, Mass.
Oswald Publishing Co., New York, N.Y.
The Printing Art, Cambridge, Mass.
B.D. Rising Paper Company, Housatonic, Mass.

The Vandercook Press, Chicago, Ill.
For Book Paper
American Writing Paper Co., Holyoke, Mass. West Virginia Pulp \& Paper Co., Mechanicville, N.Y. *** END OF THE PROJECT GUTENBERG EBOOK DIVISION OF WORDS ***

Updated editions will replace the previous one-the old editions will be renamed.
Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg ${ }^{\mathrm{TM}}$ electronic works to protect the PROJECT GUTENBERG ${ }^{\text {TM }}$ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if
you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away-you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the trademark license, especially commercial redistribution.

## START: FULL LICENSE <br> THE FULL PROJECT GUTENBERG LICENSE PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg ${ }^{\mathrm{TM}}$ mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase "Project Gutenberg"), you agree to comply with all the terms of the Full Project Gutenberg ${ }^{\text {TM }}$ License available with this file or online at www.gutenberg.org/license.

## Section 1. General Terms of Use and Redistributing Project Gutenberg ${ }^{\text {TM }}$ electronic works

1.A. By reading or using any part of this Project Gutenberg ${ }^{\text {TM }}$ electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg ${ }^{\mathrm{TM}}$ electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg ${ }^{\text {TM }}$ electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.
1.B. "Project Gutenberg" is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg ${ }^{\mathrm{TM}}$ electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg ${ }^{\text {TM }}$ electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg ${ }^{\mathrm{TM}}$ electronic works. See paragraph 1.E below.
1.C. The Project Gutenberg Literary Archive Foundation ("the Foundation" or PGLAF), owns a compilation copyright in the collection of Project Gutenberg ${ }^{\mathrm{TM}}$ electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg ${ }^{\mathrm{TM}}$ mission of promoting free access to electronic works by freely sharing Project Gutenberg ${ }^{\mathrm{TM}}$ works in compliance with the terms of this agreement for keeping the Project Gutenberg ${ }^{\text {TM }}$ name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg ${ }^{\text {TM }}$ License when you share it without charge with others.
1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg ${ }^{\mathrm{TM}}$ work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.

## 1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg ${ }^{\mathrm{TM}}$ License must appear prominently whenever any copy of a Project Gutenberg ${ }^{\mathrm{TM}}$ work (any work on which the phrase "Project Gutenberg" appears, or with which the phrase "Project Gutenberg" is associated) is accessed, displayed, performed, viewed, copied or distributed:

This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at www.gutenberg.org. If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.
1.E.2. If an individual Project Gutenberg ${ }^{\mathrm{TM}}$ electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States
without paying any fees or charges. If you are redistributing or providing access to a work with the phrase "Project Gutenberg" associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E. 1 through 1.E. 7 or obtain permission for the use of the work and the Project Gutenberg ${ }^{\mathrm{TM}}$ trademark as set forth in paragraphs 1.E. 8 or 1.E. 9.
1.E.3. If an individual Project Gutenberg ${ }^{\mathrm{TM}}$ electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E. 1 through 1.E. 7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg ${ }^{\mathrm{TM}}$ License for all works posted with the permission of the copyright holder found at the beginning of this work.
1.E.4. Do not unlink or detach or remove the full Project Gutenberg ${ }^{\text {TM }}$ License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg ${ }^{\mathrm{TM}}$.
1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E. 1 with active links or immediate access to the full terms of the Project Gutenberg ${ }^{\mathrm{TM}}$ License.
1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg ${ }^{\text {TM }}$ work in a format other than "Plain Vanilla ASCII" or other format used in the official version posted on the official Project Gutenberg ${ }^{\mathrm{TM}}$ website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original "Plain Vanilla ASCII" or other form. Any alternate format must include the full Project Gutenberg ${ }^{\mathrm{TM}}$ License as specified in paragraph 1.E.1.
1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg ${ }^{\mathrm{TM}}$ works unless you comply with paragraph 1.E.8 or 1.E.9.
1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg ${ }^{\text {TM }}$ electronic works provided that:

- You pay a royalty fee of $20 \%$ of the gross profits you derive from the use of Project Gutenberg ${ }^{\mathrm{TM}}$ works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg ${ }^{\mathrm{TM}}$ trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, "Information about donations to the Project Gutenberg Literary Archive Foundation."
- You provide a full refund of any money paid by a user who notifies you in writing (or by email) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg ${ }^{\text {TM }}$ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg ${ }^{\mathrm{TM}}$ works.
- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.
- You comply with all other terms of this agreement for free distribution of Project Gutenberg ${ }^{\mathrm{TM}}$ works.
1.E.9. If you wish to charge a fee or distribute a Project Gutenberg ${ }^{\text {TM }}$ electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg ${ }^{\mathrm{TM}}$ trademark. Contact the Foundation as set forth in Section 3 below.
1.F.
1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg ${ }^{\text {TM }}$ collection. Despite these efforts, Project Gutenberg ${ }^{\text {TM }}$ electronic works, and the medium on which they may be stored, may contain "Defects," such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.
1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the "Right of Replacement or Refund" described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg ${ }^{\mathrm{TM}}$ trademark, and any other party distributing a Project Gutenberg ${ }^{\mathrm{TM}}$ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.
1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.
1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS', WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.
1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.
1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg ${ }^{\text {TM }}$ electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg ${ }^{\text {TM }}$ electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg ${ }^{\text {TM }}$ work, (b) alteration, modification, or additions or deletions to any Project Gutenberg ${ }^{\mathrm{TM}}$ work, and (c) any Defect you cause.


## Section 2. Information about the Mission of Project Gutenberg ${ }^{\text {TM }}$

Project Gutenberg ${ }^{\mathrm{TM}}$ is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg ${ }^{\text {TM }}$ s goals and ensuring that the Project Gutenberg ${ }^{\text {TM }}$ collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg ${ }^{\text {TM }}$ and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at www.gutenberg.org.

## Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887. Email contact links and up to date contact information can be found at the Foundation's website and official page at www.gutenberg.org/contact

## Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg ${ }^{\text {TM }}$ depends upon and cannot survive without widespread public support
and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations ( $\$ 1$ to $\$ 5,000$ ) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit www.gutenberg.org/donate.

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: www.gutenberg.org/donate

## Section 5. General Information About Project Gutenberg ${ }^{\text {TM }}$ electronic works

Professor Michael S. Hart was the originator of the Project Gutenberg ${ }^{\mathrm{TM}}$ concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg ${ }^{\mathrm{TM}}$ eBooks with only a loose network of volunteer support.

Project Gutenberg ${ }^{\text {TM }}$ eBooks are often created from several printed editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Most people start at our website which has the main PG search facility: www.gutenberg.org.
This website includes information about Project Gutenberg ${ }^{\text {TM }}$, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.

