

Cavin, B.E. "The Basics of Technical
Communicating", American Chemical Society:
Washington DC., 1988.

| Chapter 2 |

Eliminating Wordiness and Jargon

*When you've got a thing to say,
Say it! Don't take half a day . . .
Life is short—a fleeting vapor—
Don't you fill the whole blamed paper
With a tale which, at a pinch,
Could be cornered in an inch!
Boil her down until she simmers,
Polish her until she glimmers.*

Joel Chandler Harris (1)

This advice is as appropriate for scientists today as it was for reporters in the late 1800s. The goals of good technical writing are to eliminate unnecessary words and phrases and to use the most precise words and concise phrases as possible.

Unnecessary Words

Consider the following passage:

The experiment calls for a condenser to be connected **up** to the cold water tap. The solution should be heated **up** so the reaction

will start **up**. This occurs **at** above 77 °C and the directions call for heating for one hour until the reaction is over **with**.

This passage might be acceptable in everyday conversation, but it would not be appropriate for proper writing, technical or nontechnical. It contains an excess of prepositions and adverbs that can be deleted to make a less cluttered, more straightforward statement. By removing the words in boldface type, the passage retains its original meaning but looks and sounds better:

The experiment calls for a condenser to be connected to the cold water tap. The solution should be heated so the reaction will start. This occurs above 77 °C and the directions call for heating for one hour until the reaction is over.

Appendix I lists common phrases that contain unnecessary words.

In addition to extra prepositions and adverbs, our language has many phrases that can and should be replaced by one word. The revised passage could be improved further by changing "calls for" to the more proper meaning "requires" or "specifies":

The experiment requires a condenser to be connected to the cold water tap. The solution should be heated so the reaction will start. This occurs above 77 °C and the directions specify heating for one hour until the reaction is over.

Appendix II lists common examples of wordy phrases and suggests better words to substitute for them.

Tautology

Another frequent writing error is *tautology*, which is the needless repetition of the same idea using different words in the same sentence. Examples are

true facts (facts are true)

equally as good as (if it is as good as, then it's equal)

initial beginning of the experiment ("initial" is the same as "first" or "the beginning")

Appendix III lists other tautologies that should be avoided.

Redundancy

Redundancy is the use of superfluous words that do not add to the meaning of the statement. Examples are

A domino is rectangular in shape.

A domino is black and white in color.

An elephant is large in size.

In these examples, rectangular is a shape, black and white are colors, and large describes size. The boldface portions of the sentences could be eliminated without interfering with the overall essence of the statements.

Comparative adjectives (e.g., more, most, less, and least) can be used improperly if they modify absolute words. For example, a result cannot be most unique, because unique means "being the only one" or "single in kind". A result can be unique but not most unique.

In everyday language and speech, many absolute words are modified, but only when using a secondary meaning. For example, a person could say, "That party was even more dead than the last one." He or she uses the phrase "even more dead" to mean "less lively" or "less interesting". A living object, however, cannot be "more dead"; it is either dead, alive, or, if in bad health, dying. Appendix IV contains a list of absolute words that should not be modified when used in the sense of their primary definitions.

Imprecise Words

Imprecise or vague words should be avoided in technical writing and replaced by quantitative expressions whenever possible. This practice is especially important when you are describing an event or the odds of the event's occurrence. Consider the following:

only (rarely, seldomly, infrequently, once in a while) did the reaction mixture explode. . .

it is (likely [or unlikely], almost certain) that the product is toxic. . .

the substance was (likely to be, almost always, frequently, usually, generally) contaminated with. . .

the disease (tended to be, was often, was most often) fatal. . .

The words in parentheses are more vague than the reader would wish. How often does the reaction mixture explode? 1 out of 10? 1 out of 1,000,000? The answer to that question could have considerable bearing on the decision to follow the published procedure.

Using imprecise words is not completely prohibited and is often appropriate when describing people or situations that are not predictable. To write that "a person rarely smiled" gives a good mental picture of a typically dour expression, and the qualifier is understood well by the reader. Research in the medical profession (2) indicates an implicit differentiation among doctors as to the meaning of several imprecise phrases; for example, "almost certain" conveys 95% likelihood, and "very likely" indicates about 90% chance.

Superfluous Phrases

Some phrases are simply superfluous, but the writer feels obligated to use them as introductions to various ideas. "Needless to say" is a phrase that causes the reader to respond, "Why say it then?" Several other phrases are in the same category, such as:

As a matter of fact

As you already know

For all intents and purposes

In a manner of speaking

In my opinion

It has come to my attention

It is interesting to note that

It may be said that

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It would appear that

Last but not least

The bottom line is

The statement may be made that

Omit these phrases in technical writing; they contribute nothing to the subject and are simply fillers. In an oral presentation, limited use of these phrases is more acceptable. People being bombarded with technical information need some time to assimilate it, and these fillers can provide a short opportunity for the listeners to digest the information!

Overly Complex Words

Writing and reading about technical subjects accustoms people to complex terminology. Unfortunately, using simpler words often becomes difficult or seems trite. "Securing employment" sounds more sophisticated than "finding a job", even though the latter is more clear and to the point. Whenever it is possible to substitute everyday language for a multisyllabic term without resorting to slang or losing precision in the writing, you should do so.

The title of a recent article by Edward Tenner (3) is a good example of excessive use of large words to the extent that the meaning is obscured (purposefully, in this case):

Cognitive Input Device in the Form of a Randomly Accessible
Instantaneous-Read-Out Batch-Processed Pigment-Saturated
Laminous-Cellulose Hard-Copy Output Matrix*

*Or magazine article in Tech Speak, which replaces the jargon of Indo-European herdsmen with a rigorous and logical language.

Each area of specialization has its own slang or jargon that colleagues use to communicate very effectively among themselves. Acronyms are easier to use on a continued basis than the string of words for which they stand. Governmental agencies, such as the

National Aeronautics and Space Administration (NASA), are notorious for creating new words, but scientists in the fields of chemistry, computer science, and other technologies have all contributed to the constantly changing vocabulary. If the intended audience might include those who are not as informed about the subject as the writer, jargon should be avoided. If it is more efficient to use these terms, they certainly should be defined clearly upon their first use in a paper or talk.

References

1. *The Shorter Bartlett's Familiar Quotations*; Sproul, K., Ed.; Permabooks: New York, 1959; "Advice to Writers for the Daily Press," p 157.
2. Mosteller, F.; as quoted by Kolata, G. *Science* 1986, 234, 542.
3. Tenner, E. *Discover* 1986, 7(5), 58-64.

Exercises

1. Prepare a one-page paper about a scientific topic using your natural style of writing (or use a previously written paper). Then carefully reread what you have written, and try to identify phrases that need shortening, omitting, or replacing; tautologies; redundancies; and misuse of comparatives. Rewrite the page with the correct style.
2. Photocopy a journal, magazine, or newspaper article about a scientific subject and identify any of the common errors mentioned in this chapter (maybe there will be none). Rewrite the sentences in which errors occur.

Appendix I. Phrases That Contain Unnecessary Words

Delete the words in boldface type.

as to whether	end up	lose out on	reduce down
at above	enter in	meet up with	refer back
at below	enter into	miss out on	remain back
check into	face up to	of from	repeat again
check on	file away	off of	return again
check upon	follow after	open up	return back

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Appendix I.—Continued

climb up	follow up	out of	revert back
close down	head up	outside of	rest up
close up	hoist up	over with	resume again
connect up	in between	pay up	retreat back
count up	inside of	penetrate into	seal off
debate about	join up	plan on	still remain
decide on	know about	protrude out	termed as
descend on	later on	raise up	weigh out
divide up	level off	recall back	win out
empty out	link up	recur again	write up

Appendix II. Phrases To Be Replaced by Shorter Words

Phrase	Improved Word
accounted for by the fact that	due to, caused by, because
a considerable amount of	much
add the point that	add that
afford an opportunity	permit, allow
after this is accomplished	then
a great deal of	much
along the line(s) of	like
a majority of	most
an example of this is the fact that	for example, as an example, thus
another aspect of the situation to be considered	as for
a number of	several, many, some
are of the same opinion	agree
as a consequence of	because
as a matter of fact	in fact
as is the case	as happens
as of now (this date)	now
as per	eliminate; rephrase sentence
as regards	about
as related to	for, about
assuming that	if
as well as	and
at an earlier date	previously
at a rapid rate	rapidly, quickly
at this point in time	now

Appendix II.—Continued

Phrase	Improved Wording
at this time	now
aware of the fact that	know
based on the fact that	due to, because
beg leave to say, beg to differ	eliminate; please don't beg!
by means of	by
come to an end	end
despite the fact that	although
due to the fact that	because
duly noted	noted
during the time that	while
except in a small number of cases	usually
exhibit a tendency to	tend to
first of all	first
for the purpose of	for
for the (simple) reason that	because
give rise to	cause
has the ability to	can
inasmuch as	for, as
in case	if
in close proximity	near, close
in connection with	about, concerning
in consequence of this fact	therefore
in light of the fact that	because
in many cases	often
in order to	to
in regard to	about
in relation to	to, toward
in relation with	with
in respect to	about
in short supply	scarce
in spite of the fact that	although
in terms of	in
in the case of	for, by, in, if
in the course of	during
in the event of (that)	if

Appendix II.—Continued

Phrase	Improved Wording
in the first place	first
in the majority of instances	usually
in the matter of	about
in the not-too-distant (near) future	soon
in the proximity of	near, nearly, about
in the vicinity of	near
in this day and age	today
in view of the above	therefore
in view of the fact that	therefore, because, since
it is apparent that (it appears that)	apparently
it is believed that	I believe, I think
it is clear that	clearly
it is doubtful that	possibly
it is incumbent on me	I must
it is often the case that	often
it stands to reason	eliminate if possible
it would not be unreasonable to assume	I assume (or we assume)
kindly send	please send
leaving out of consideration	disregarding
make the acquaintance of	meet
not of a high order of accuracy	inaccurate
notwithstanding the fact that	although
of considerable magnitude	big, large, great
of great importance	important
of very minor importance	unimportant
on account of the fact that	because
on a few occasions	occasionally
on a personal basis	personally
on behalf of	for
on the grounds that	because
on the order of	about

Appendix II.—Continued

Phrase	Improved Wording
owing to the fact that	because
relative to	about
subsequent to	after
take the place of	substitute
the only difference being that	except that
the question as to whether or not	whether
the reason is because	because
there are not many who	few
there is very little doubt that	doubtless, no doubt
through the use of	by, with
to be cognizant of	to know
to summarize the above	in summary
with a view to	to
within the realm of possibility	possible, possibly
with reference to	about
with regard to	concerning, about
with the (possible) exception of	except
with this in mind, it is clear that	therefore

Appendix III. Tautologies

Phrase	Improved Wording
absolutely essential	essential
adequate enough	either word, but not both
advance forward	advance
advance planning	planning
and etc.	etc.
attached together	attached
basic fundamentals	either word, but not both
circle around	circle

Appendix III.—Continued

Phrase	Improved Wording
circulate around	circulate
close scrutiny	scrutiny
collect together	collect
combine together	combine
completely full	full
consequent results	results
continue to remain	remain
desirable benefits	benefits
early beginnings	beginnings
enclosed herein	enclosed
end result	result
endorse on the back	endorse
entirely eliminate	eliminate
equal halves	halves
equally as good as	"equally" or "as good as", not both
fast in action	fast
fellow colleagues	colleagues
few in number	few
final completion	completion
first and foremost	first
first beginnings	beginnings
free of charge	free
important essentials	essentials
in the range of ... to ...	... to ... (omit "in the range of")
join together	join
joint cooperation	cooperation
joint partnership	partnership
main essentials	essentials
merge together	merge
mix together	mix
mutual cooperation	cooperation
necessary requisite	one word, but not both
past experience	one word, but not both
plan ahead	plan
pooled together	pooled
rather interesting	interesting

Appendix III.—Continued

Phrase	Improved Wording
resultant effect	result
same identical	one word, but not both
surrounding circumstances	circumstances
ways and means	one word, but not both

Appendix IV. Absolute Words That Resist Modifiers

dead	mortal
extinct	obvious
fatal	peerless
final	perfect
honest	permanent
impossible	rare
inferior	safe
libelous	straight
lifeless	unique
matchless	universal
moral	vertical (or horizontal)

Chapter 3

Using Correct Punctuation

“Mother of Baby Strangled on Ship in Court”

This headline appeared in a local newspaper (*Rochester Times-Union*, August 5, 1986) and is definitely ambiguous, if not humorous. Was the mother strangled or was it the baby? Where did it happen? On ship? In court? Or was the ship in the court? Although newspapers need to minimize the number of words in headlines, this headline could have been made more clear with a change in word order and proper use of punctuation:

“Baby Strangled on Ship; Mother in Court”

This example of telegraphic writing used in newspaper and magazine headlines illustrates the importance of correct punctuation. Often, misplaced or missing punctuation can change the intended meaning of the writer's message. Let us look at some of the more common uses and abuses of punctuation that are found in technical writing. (For a more thorough coverage of punctuation rules, consult *The ACS Style Guide* [1] or any standard text on English grammar.)

Period

A period is one of the strongest punctuation marks. It indicates complete closure of a thought and signifies the end of an idea. Use a period at the end of a complete sentence.