

# Some Aspects of English in Technical Writing

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## Common Convolutions of English in Technical Writing 1

Items 1 - 5 are after Lindsay (1995)

### ① Clusters of nouns

- “Leaf copper accumulation observations”
- “Amino acid digestion analyses”
- “Testis growth rate figures”
- “Wool filament quality parameters”
- “Plasma urea nitrogen concentrations”

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## Common Convolutions of English in Technical Writing 2

### ② Adjectival clusters

- “The maximum net returns above feed cost ration”.
- “The non-nitrogen supplemented group”.

### ③ Sentences beginning with subordinate clauses

“Thus, although there were too few plots to show all of the interactions which we sought [*subordinate clause*], under the conditions of the experiment [*subordinate phrase*], copper and zinc acted additively”.

*cf.* “Thus, copper and zinc acted additively under the conditions of our experiment although there were ....”.

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## Common Convolutions of English in Technical Writing 3

### ④ Use of imprecise words

- “Considerable”
- “Quite”
- “Somewhat”
- “Very”
- “Rather”



### ⑤ Use of double negatives

- “It is not uncommon”      “It is common”
- “It is unlikely it won't work”      “It is likely to work”

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## Helpful Rules in Organizing Your Writing

### The Power of Position (after Lindsay, 1995)

“Fleming, in 1929, discovered penicillin after a bacterial plate he was culturing became contaminated with a spore of the fungus *Penicillium*.”

#### Facts conveyed

- The discoverer of penicillin
- The date of the discovery
- The way it came to notice
- The name of the organism involved
- What it contaminated



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## Helpful Rules in Organizing Your Writing 2

### Changing the emphasis

- **On antibiotics**

“Penicillin was discovered in 1929 ...”



- **History**

“In 1929, Fleming discovered ...”



- **Serendipity**

“A chance contamination by ...”



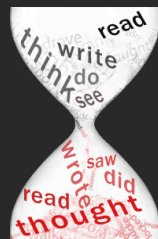
The desired emphasis is placed first.

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## Helpful Rules in Organizing Your Writing 3

### The tense

- The work reported is finished.
- Because of biological variations, it is not reasonable to expect the same results if the work is repeated.



The present tense is reserved for conclusions and generalizations which you believe are still valid at the time of writing.

The same rule applies when describing the work of others.

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## Helpful Rules in Organizing Your Writing 4

### Precision, Clarity, and Brevity

Three essential criteria of scientific writing which should always be considered in that order.

### Readability

Good sentences can be read and understood in one pass.

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## Readability 2

### Hindrances to readability

- 1 **High average length of sentence**  
Advocates of “plain English” say 15 – 20 words (Seeley, 1998).
- 2 **Long words**  
Words of 3 or more syllables  
Except:  
Personal and place names.  
Verbs over 2 syllables because of *-ing*, *-ed* or *-es*.  
Plural nouns over 2 syllables because of *-es*.

## Readability 3

### The Fog Index (Gunning, 1952)

#### Procedure

- 1 Take an approx. 100-word sample (including a sentence end).
- 2 Count the number of sentences
- 3 Count the number of long words.

$$\text{Fog Index} = \left[ \left( \frac{\text{No. of words}}{\text{No. of sentences}} \right) + \left( \frac{\text{No. of long words}}{\text{Total no. of words}} \right) \right] \times 0.4$$

#### Readability

- 5 Easy
- 10 More difficult
- 15 Difficult
- 20 Very difficult

## Paragraphing



### Problems with paragraphs

- Too long: more than one topic (idea) expounded.
- Too short: one topic dealt with in more than one paragraph.
- Poor linkage between paragraphs (topics).

## Paragraphing 2

### Paragraphs are used

- to break a large work so that it is easier to absorb.
- to group ideas in a work *i.e.* a paragraph should contain sentences expounding the same topic.
- to present a logical progression of ideas (paragraphs).

### Paragraphing 3

## A good paragraph has a

- **Topic sentence**

This leads the paragraph and gives the reader an idea of what the paragraph is about.  
This is then supported by other sentences.

- **Summary or link sentence**

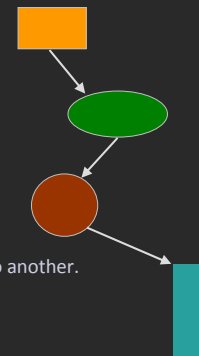
Used to emphasize the key point of the paragraph and/or prepares the reader for a related idea in the next paragraph.

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### Paragraphing 4

## Coherence and flow

- Between paragraphs.
- Logical flow in ideas.
  - One thought following from, or flowing to another.
- Signs of paragraph coherence.
  - Repeated thematic elements; phrases; words.



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## Tone in writing

Remembering that:

- hypotheses are forever open to disconfirmation.
- science is **constitutionally provisional** and uncertain.

We can understand the use of “hedging” .

Hedging is central to effective argument in scientific writing (Hyland, 1996).

## What is hedging?

“Hedging is a rhetorical means of gaining reader acceptance of claims, allowing writers to convey their attitude to the truth of their statements and to anticipate possible objections” (Hyland, 1996).

### Commonly found hedges in research articles (Hyland, 1998)

Adjectives & adverbs	Verbs		
	Judgmental	Evidential	Modal
About	Assume	Appear	Could
Apparent(ly)	Estimate	Report	May
Approximate(ly)	Imply	seem	Might
Consistent (with)	Indicate		Should
Essentially	Predict		would
Generally	Propose		
Most	suggest		
Partially			
Possibly			
Presumably			
Probably			
Relatively			
Slightly			
(un)likely			

### Examples from papers

“This higher yield is **unlikely** to be due to substrate and pH factors alone as . . . .”

“Thus, it **could** be said that total population size in . . . .”

“This **suggests** that a physiological change affecting enzyme synthesis . . . .”

### Effect on citing

Care must be taken that hedges used in original writings are not changed when they are cited or paraphrased.

This has the potential of changing the uncertainty of past results.

### Punctuation: An example

#### The comma

“A most difficult punctuation mark to use well.

... essential for clear writing ...

The person who has learned how to use commas has learned now to write.”

(Seeley, 1998)

## Punctuation

### Famous Commas (Bryant, 1983)

#### The fatal comma

Warrant signed by Alexander III:

“Pardon impossible, to be sent to Siberia.”

Changed by Czarina Fyodorovna by shifting the comma.  
The man was set free.



#### The blasphemous comma

In erroneous editions of the King James bible, Luke 23:32,  
in describing the other men crucified with Christ read:

“And there were also two other malefactors

A comma is missing.



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### Famous Commas 2

#### The million-dollar comma (Bryant, 1983)

Clerical error meant that an 1872 U.S. government tariff act listed  
duty-free items including:

“Fruit, plants tropical and semi-tropical.”

Import duty was lost for two years as importers successfully  
contended that all tropical and semi-tropical plants were exempted.  
The comma was in the wrong place.



#### The yuletide comma

There should be a comma in the title of this Christmas carol

“God bless you merry gentlemen.”

Where should the comma be placed?



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### The Oxford comma (Wikipedia, 2006)

A comma used before “and” or “or” to remove ambiguity.

#### Book dedication

“To my parents, Ayn Rand and God.”

(Two people: Ayn Rand and God)

“To my parents, Ayn Rand, and God.”

(Four people: Parents, Ayn Rand and God)



#### Sandwiches

“My favourite types of sandwiches are pastrami,  
ham, cream cheese and jam and peanut butter.”

If jam and peanut butter is one of the favourites then a comma  
is required after “cheese”.



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## Woman / Man

Punctuate this

“A woman without her man is nothing”

“A woman without her man, is nothing”

“A woman: without her, man is nothing”

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## Expression (After Conn, 1992)

### Proof-reading

“The French aristocracy were sitting on a volcano and thus they could not wee.”

### Spelling

“The French revolution would of been grate but Robespierre ruined it’s glorious aims with his rein of terror.”

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## Expression 2

### Clarity

“For many years after the 1917 revolution the government of Russia depended on the organs of the secret police.”

### Meaning

“Vasco da Gama was a great sailor who circumcised the world with a 30-foot clipper.”

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## Consider . . .

### Independent proof-reading

It can be difficult to proof read your own document especially over a long gestation period.

### Maturing

The written text will benefit from letting it “mature” *i.e.* left to sit for awhile before final re-work.

- Very possible you will look at the document with “different eyes”.
- Implies allowing for sufficient production time.

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## Expression 3

### Some of *The Herald Sun's* Best Newspaper Headlines of 2000



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- Gas watch for underground rail
- Police guard water supplies
- Evacuation plan for city, schools

## Miners Refuse to Work After Death



**RENSHORE** to detect chemical attacks may be killed in Melbourne's underground rail, but **WORLD AND RAY** public sites in the Pacific against terrorism.

**By MARK CUMPL, KELLY RYAN and KAMAIL COOSON**

They want for assessment pass...  
...and Victoria's Emergency Services Commission, Peter Rippe.

**VICTORIA** Police say just 20 people...  
...and health reports, on 24 hour shift.

**MELBOURNE** support groups have...  
...and health reports, on 24 hour shift.

- Gas watch for underground rail
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## Police Begin Campaign to Run Down Jaywalkers



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## Iraqi Head Seeks Arms



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## Two Sisters Reunited after 18 Years at Checkout Counter



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■ Gas watch for underground rail ■ Police guard water supplies ■ Evacuation plan for city, schools

# Stolen Painting Found by Tree



**WAR ON TERROR**  
SUSPICIONS to detect chemical attacks may be Stated in Melbourne's underground rail but work could be put on hold in the battle against terrorism.  
Police are also reaching Melbourne water supplies from both water embankments in Australia into the water to drinking water. Maintenance plans for the city are in place.  
Security measures are being undertaken in the city and police are

**By MARK CUMPL, KELLY RYAN and KAMAL COGDON**  
Two separate terror threat alerts in New York and Washington and from Melbourne's underground rail, police officers are also reaching Melbourne water supplies from both water embankments in Australia into the water to drinking water. Maintenance plans for the city are in place.  
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They mean for government officials to visit Victoria's Emergency Services Commissioner, Steve Ryan.  
The threat plan has involved VICTORIAN Police use of the water embankment along, including emergency and water supplies, to 14 local water MELBOURNE airport, which have received 20 trucks, water supplies, containers and seal structure under a government plan for the department of Transport.  
VICTORIAN officials have reported

calls to the US and are made to meet immediate plans.  
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CONTINUED, Page 4  
MORE reports, Pages 10-11  
"SLACK" score, Page 2

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# Kids Make Nutritious Snacks



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# Panda Mating Fails; Veterinarian Takes Over



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# Typhoon Rips Through Cemetery; Hundreds Dead



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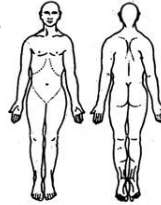
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## Doctors too ...

### Medical Report

PEMERIKSAAN FIZIKAL: Kadar  
Suhu Badan: \_\_\_\_\_ Denyutan Nadi: \_\_\_\_\_ Kadar Pernafasan: \_\_\_\_\_ Tekanan Darah: \_\_\_\_\_

She has no rigors or shaking chills, but her husband states she was very hot in bed last night.



Tandakan kawasan-kawasan fizikal yang penting pada rajah di atas, dan senaraikan pemerhatian tersebut.

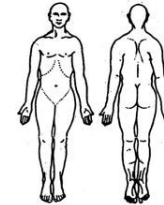
PENTASATAN MAKMAL & KEPUTUSANNYA

<http://www.learnenglish.de/mistakes/medicalmistakes.htm>

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Suhu Badan: \_\_\_\_\_ Denyutan Nadi: \_\_\_\_\_ Kadar Pernafasan: \_\_\_\_\_ Tekanan Darah: \_\_\_\_\_

On the second day the knee was better, and on the third day it disappeared.



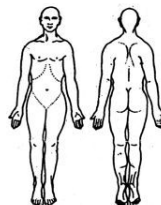
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PENTASATAN MAKMAL & KEPUTUSANNYA

### Medical Report

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Suhu Badan: \_\_\_\_\_ Denyutan Nadi: \_\_\_\_\_ Kadar Pernafasan: \_\_\_\_\_ Tekanan Darah: \_\_\_\_\_

By the time he was admitted, his rapid heart had stopped, and he was feeling better.



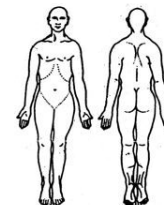
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PENTASATAN MAKMAL & KEPUTUSANNYA

### Medical Report

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Suhu Badan: \_\_\_\_\_ Denyutan Nadi: \_\_\_\_\_ Kadar Pernafasan: \_\_\_\_\_ Tekanan Darah: \_\_\_\_\_

The patient has been depressed since she began seeing me in 1993.



Tandakan kawasan-kawasan fizikal yang penting pada rajah di atas, dan senaraikan pemerhatian tersebut.

PENTASATAN MAKMAL & KEPUTUSANNYA

## Source

Lindsay, D. (1995) "A Guide to Scientific Writing", 2nd edition. Longman, Melbourne.