

**WRITING WORKSHOP**

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## ADVICE TO AUTHORS EMBARKING ON A NEW PAPER

1. Have something to say.
2. Say it.
3. Stop as soon as you have said it.
4. Give the paper a proper title.

J.S. Billings. Address on medical literature.  
*British Medical Journal* 1881;2:262-8

### **BWH Editorial Service motto: Clarity, Consistency, Concision**

#### **Clarity**

- define terms up front
- state objectives clearly
- avoid ambiguity

#### **Consistency**

- use same terminology throughout
- design tables and figures with consistent format
- refer to data in text and tables consistently
- [in grants] use same statement of aims in abstract & narrative

#### **Concision**

- restrictions on article length by many journals means less is better
- avoid unnecessary phrases (e.g., “has the potential to” = “can”; “we found that”redundant in Results)
- delete extraneous material – no matter how interesting, if it doesn’t add to the argument or speak directly to your point, leave it out

## 1. Have something to say.

*when to write?* when you have a body of data that add significantly to published knowledge, refute a published finding, or take your work to a next logical level.

## 2. Say it.

### *Introduction*

- set your paper in a context – what’s been done to date, why your findings are important, etc.
- briefly state what you sought to prove or discover or refute

### *Methods*

- clarity most important here: the reader should be able to form a picture of what you did, recreate the experiment, understand how comparative groups differ
- concision: use references to handle established methods that don’t need to be described again (e.g., the FFQ)

### *Results*

- state numeric data once, either in table/figure or text, but not both
- use results to point out trends, surprises, outliers, but not to rehash data in prose

### *Discussion*

- how do your findings move our thinking forward?
- how do they differ from what we thought before?
- what do they teach us and how do they suggest what to do next?
- discussion should lead us to the conclusion

## 3. Stop as soon as you have said it.

- wrap up the paper concisely, leaving the reader with your main point, briefly and clearly stated

## 4. Give the paper a proper title.

- catch the reader’s attention – use key words and avoid stock phrases (An Introduction to...; The Effects of...; An Analysis of...) – cut to the chase
- some journals prefer the brief statement of your main finding, others want a more general statement of what the paper’s about without giving away the findings – know which your journal wants and how many characters you’re allowed to say it in
- if you work with animals and not humans, include the species in the title – don’t let us think we’re going to read about patients if you worked with mice

## **Self-editing tips**

*read aloud*

- if it sounds wrong, it probably is
- a good way to hear whether arguments are presented in parallel, terminology is used consistently, something is out of order, there's redundancy that could be deleted
- also a good way to avoid making the BWHES annual bloopers poster \*

*use the spell checker* – even professional editors miss things

*consult instructions to authors* – be sure you've used the format your journal wants, know the word/page limit, have the correct reference style, etc.

*check references* – make sure you haven't duplicated references, that you've cited them all and no more, and that they're in the correct order

### **Fred [Mosteller]'s maxim**

*Do what's easy first.*

- title page
- acknowledgements
- key words
- figure legends
- references

You'll feel as if you've accomplished something, and you will have.

\* see sample bloopers on the next page

## **BLOOPERS WE HAVE KNOWN AND LOVED**

Both patients defervesced, however, and sterilized their joints before death.

On admission she was a toxic black female.

acute and chronic guinea pigs

Group B streptococci have been isolated frequently from the upper respiratory tract of the United States

Better results were obtained when the drug was given to a population mixed with table salt.

“Coccidioidomycosis in Adolescents Presenting as Chest Pain”

...the bovine practitioner...

human beings in the vaginal environment

On admission the patient was confused with a stiff neck.

...including side-effect reporting by verbal probe...

Of those, 2,022 were reported dead by means of a proxy interview.

The high death rate had an impact on patient outcome.

We feel that the minimal risks involved in these studies far outweigh the potential benefits of better understanding the mechanisms underlying the effects of...

We calculated years of exposure to estrogen by subtracting age at menopause from age at menarche.

## MISCELLANEOUS POINTS OF GRAMMAR

We all remember rules of grammar that were drummed into our heads at an impressionable age by formidable teachers. Our biggest problem is that we often remember them wrong. In some cases, they were wrong, or at least misguided. Some of the “rules” below may sound familiar; others may fly in the face of what you learned (or remembered). As in all things, rules of grammar are made to be broken, but you should know what the rule is before you take license to break it.

### **if/then vs. whether**

If the results are as we expected, then we will know we were right.

The results will tell us whether we were right.

### **danglers and misplaced modifiers**

Although not significant, we found a similar trend... [*our insignificance should be of no interest to the reader*]

Called *Reading the Shape of Nature*, Winsor, associate professor of the history and philosophy of science, worked on the book from 1979 to 1991. [*not a bad book title, but an odd name for an author*]

### **active vs. passive**

In general, the passive voice neutralizes blame, responsibility, and credit for scientific findings:

It is expected [We expect] that these strains will have antibiotic resistance profiles similar to those studied previously.

It was found [We found] that the original premise was woefully inaccurate.

It is thought [We believe] that the organism most commonly isolated in these cases is not the cause of these infections.

### **which tense?**

Whatever one is suitable.

- What you did should be reported in the *past* tense: we examined, we stained, we incubated, we surveyed.
- Findings can be reported in either *past* or *present*: we found in certain cases that...; the measurements were as expected in this case; the mice died; as in our earlier experiments with strain X, strain Y shows a trend toward...
- Things that are true or established fact should be in the *present*.

“We performed [*past*] experiments that showed [*past*] that thus-and-such happens [*present*] in this circumstance. These findings are [*present*] in contrast to the findings of Smith and Jones, who showed [*past*] that the other thing happens [*present*] in the same circumstances. In our next life, we will perform [*future*] another experiment to see whether the same thing or something entirely new happens [*present*] under slightly different circumstances.”

### **that vs. which**

The simplest way to remember the rule is: *which* takes a comma, *that* does not. [NOTE: this is American usage; British usage is another thing.]

If you really want to know why, read on: *That* defines (or restricts) the noun that precedes it and so should not be separated from the noun. For example, in *the horse that he came in on*, one particular horse is being defined, so that we now know what horse the speaker is talking about. *Which* is nondefining (or unrestrictive); it simply gives us more information about the noun that precedes it. For example, in *the horse, which he came in on, is looking rather undone*, the clause introduced by *which* gives us more information about the horse but does not define it; we apparently already knew which horse was under discussion, and the crucial point now is its undone condition.

### **parallel construction**

*extremely confusing:* In 75% of patients whose osmolality was 700 mOsm or more, bacteriuria was eradicated for the entire pregnancy, but only one-third of patients with osmolalities less than 700 mOsm were ever treated successfully (P <.01).

*better:* Bacteriuria was eradicated for the entire pregnancy in 75% of patients whose osmolality was  $\geq 700$  mOsm but in only 33% of patients with osmolalities of  $< 700$  mOsm (P<.01).

### **Is it appropriate to ever split an infinitive?**

Yes, in certain cases (but not in the one above):

*... has enabled us to objectively categorize and report on all cases...*

prevents having to repeat the adverb to make the meaning clear, as in

*...has enabled us to categorize objectively and report objectively on all cases...*

and makes it clear that the adverb applies to both verbs, which is not clear in

*...has enabled us to categorize and report objectively on all cases.*

### **both**

- use only if there are two (and only two) points and they need the kind of emphasis 'both' gives
- use in the following way: “in both this and that” If the same preposition applies, this is the better formulation. It is not incorrect to say “both in this and in that,” but why repeat yourself? Save it for cases where the preposition changes, “both in this and under that.”

### **prepositions**

A preposition shows the relation of a noun or pronoun to some other word in a sentence. Margaret Shertzer, in *The elements of grammar*, offers a lists of idiomatic prepositional phrases, necessary prepositions, and unnecessary prepositions. A good resource.

Theodore Bernstein, a proponent of good-sense grammar, writes, "The proper preposition is a matter of idiom; and idioms, if they do not come 'naturally,' must be either learned or looked up." He says lots more, too, but his final advice is "to consult three knowing friends and get a consensus."

We were all taught not to end a sentence with a preposition, but Bernstein says "If by trying to avoid ending a sentence with a preposition you have seemed to twist the words out of their normal order and have created a pompous-sounding locution, abandon the effort." For example, "she doesn't have a leg to stand on" should **not** be changed to "she doesn't have a leg on which to stand" for the sake of proper placement of the preposition.

## **A Punctuation Primer**

The job of most elements of punctuation is to separate thoughts and words according to the degree to which they are related.

hierarchy of punctuation from most to least

*period* (or full stop) – ends a complete thought

*colon* – separates a complete thought from further explanatory material, lists, examples, etc. What follows a colon is generally not a complete thought, or doesn't have to be.

*semicolon*\* – In American English, the semicolon is used for a couple of different things:

1. to connect two complete thoughts that are more closely related than two separate sentences would be, for example, "Upon heating the aqueous solution, the copolymer solidifies, forming what is referred to as a hydrogel; when cooled the hydrogel liquefies."
2. or when the two parts of the sentence are joined by however or therefore or thus ["blah, blah, blah; however, blah"])
3. to separate elements in a list when one or more of those elements is a list itself. For example, a list that included "cartilage; tissue-engineered bone, skin, and hair; and artificial matrices", where you want to make it clear what the separate elements are.

*parentheses* – enclose material that is explanatory or further enhances a sentence but is not an integral part of the complete thought

*brackets* – two different uses: first in verbal and mathematical hierarchies of punctuation, brackets enclose parentheses (verbal) and are enclosed by them (mathematical); second, to set off assumed/understood but not explicitly given information in quoted material.

*dash* – a double hyphen (Word automatically turns a hyphen into a dash when you type a word after it and space); a lighter separation of parenthetical material than the parenthesis or bracket. Also a less formal designation of parenthetical material

*hyphen* – use when a two-word term is used as an adjective, for example, "long-term studies" and "tissue-engineering experiments." Those terms by themselves, used as

nouns, do not require a hyphen -- you would say "in the long term" or "the field of tissue engineering", but when they are used to describe another noun, the hyphen makes it clear that the two words make up one adjective that describes that noun.

*comma* – probably the most widely used and useful internal punctuation in a sentence, separates simple (as opposed to compound) elements in a list, making clear the separateness of those elements. In a list of more than two elements, there should be a comma after the item preceding “and” [the penultimate comma] to make it clear that the final two items are not considered as one. The best example of confusion on this score (whether apocryphal or not) is a legacy left to “Susan, George and John,” which was interpreted as half to Susan and half to George and John to share.

\* Its use is different in British and American English, just to make things more complicated for non-native writers (and the rest of us as well)!

## **Editorial Pet Peeves**

between ... and

from ... to

greater/less... than (not greater...compared with)

if ... then vs. whether (see above)

compose vs. comprise

medium vs. media

danglers (also see above)

repetition of data in results and illustrative matter

incomplete comparisons

## **STEPS IN OUTLINING**

1. Write down the conclusion you ultimately want to make.
2. List the points you want to make as they occur to you.
3. Group your points according to broad topics (1st-level headings).
4. Modify the outline:
  - Fill in gaps
  - Eliminate redundancy
  - Delete irrelevant material
5. With the conclusion in mind, determine the order of broad topics for a logical flow of argument.
6. Organize points within broad topics (2nd-level headings).
7. Flesh out each section with text, using the General Principles of Writing for guidance.

## **GENERAL PRINCIPLES OF WRITING**

1. Follow your outline.
2. Keep your conclusion in mind at all times.
3. Let the data (results of your research) drive the writing.
4. Make sure arguments flow from point to point.
5. Put all the information on one topic in one place.
6. If it doesn't work in one place, change the outline.
7. Separate descriptive material (methods, results) from interpretive material (discussion, conclusion).

**ALWAYS KEEP YOUR READER IN MIND!**

## WRITING A COLLABORATIVE PAPER (OR GRANT PROPOSAL)

### Guiding Principle

Democracy is a nice idea, but somebody needs to be in charge.

- one general editor for the project
- regular meetings of the authors
- clear delineation of responsibility
- strict adherence to deadlines
  - pay attention to what co-authors say about proposed schedules
  - be attuned to waffling
  - start with flexibility
  - look realistically at calendars and other commitments
  - make/allow everyone to participate in scheduling

### Procrastination and its consequences

- do what's easy first
  - sense of accomplishment
  - frees up time and energy for the harder stuff
- do not underestimate how long it will take to do something as a group
  - how many people need to handle each revision?
  - will paper be shuffled among authors by e-mail, snail mail, courier, fax?
  - who has the final say about revisions?

### Grant proposals

- you need the same kind of goals and schedule to prepare the proposal as to carry out the work once funding is secured
- be sure you know your institutional protocols re presubmission approval
- don't let the requirements of the funding agency be a last-minute surprise
  - be sure you have the latest information from the funding agency
  - read the agency's instructions before you do anything else and follow them to the letter
  - talk with a colleague who has been funded by that agency for tips



## **GUIDELINES FOR GRAPHIC MATERIAL**

From *The Visual Display of Quantitative Information*, Edward R. Tufte, Graphics Press, 1983

### *Graphical Excellence*

- show the data
- induce the viewer to think about the substance rather than the methodology, graphic design, the technology of graphic production, or something else
- avoid distorting what the data have to say
- present many numbers in a small space
- make large data sets coherent
- encourage the eye to compare different pieces of data
- reveal the data at several levels of detail, from a broad overview to the fine structure
- serve a reasonable clear purpose: description, exploration, tabulation, or decoration
- be closely integrated with the statistical and verbal descriptions of a data set.

Graphics *reveal* data.

## ON THE CORRELATION OF RISK FACTORS WITH OUTCOMES

We have noticed a recurring problem in the reporting of epidemiological findings having to do with risk factors for certain outcomes. Perhaps a brief diatribe on the subject will help authors dispense with this problem in future papers.

Certain factors -- age, level of education, pack-years of smoking -- are often correlated (or associated) with certain outcomes -- levels of bone lead, development of COPD, or what have you. But these correlations or associations must be reported in different terms depending on whether the author specifies the direction (i.e., direct, inverse, positive, negative) of the correlation or not.

For example, it is incorrect to say "Age, fewer years of education, and pack-years of smoking were significant predictors of bone lead levels." Fewer years of education predicted what change in bone lead level? You can say "Age, level of education, and pack-years of smoking were significant predictors of bone lead levels." or "Age over 65 years, 12 or fewer years of education, and >20 pack-years of smoking were significant predictors of bone lead levels >50  $\mu\text{g}/\text{dl}$ ." If you specify a quantity for any one factor, you must specify the quantity for all factors, and you must specify the direction of the association of those factors with particular outcomes. You can also say "Age, level of education, and pack-years of smoking were directly correlated with levels of lead in bone," which implies that an increase in any of those factors predicts an increase in lead level. But you cannot say "Age, level of education, and pack-years of smoking were significant predictors of increased lead levels in bone," without specifying the values or quantitative parameters of those factors that predict those increased levels.

## A FEW USEFUL REFERENCE BOOKS

Bernstein, Theodore M. *The Careful Writer: A Modern Guide to English Usage*, NY: The Free Press paperback edition, 1998

a no-nonsense, intelligible presentation of many commonly blundered points of grammar

Follett, Wilson. *Modern American Usage, A Guide*. NY: Hill & Wang, revised edition, 1998

somewhat convoluted for the uninitiated and probably overkill for everyday use, but still the ultimate source for American usage

Gordon, Karen Elizabeth. *The Transitive Vampire: A Handbook of Grammar for the Innocent, the Eager, and the Doomed*. Pantheon, updated edition, 1993

also *The Well-Tempered Sentence, A Punctuation Handbook for the ...and the Doomed*; these two books are loads of fun, as Gordon's examples range from merely funny to outrageous

Strunk, William and White, E.B. *The Elements of Style*. Longman, 4th edition, 2000

**the** source for questions of writing style – short, to the point, and easy to understand

Shertzer, Margaret. *The Elements of Grammar*. Longman, 1st edition, 1996

from the publishers of Strunk & White, a similarly useful and easy to understand grammar guide