

# Scientific Writing

- Lecture Two: News Writing

News writing...

News-writing is the art of maximizing information and minimizing words; it's the barest-bones form of writing. The fundamentals of good writing can be learned by dissecting news articles.

# Scientific Writing

*When you write news, you are trying to inform your reader in the quickest, most interesting way possible.*

# Scientific Writing

What scientific writers can learn from journalists...

1. That a clear, succinct, informative writing style is best and...
2. That holding your reader's attention matters!

# Scientific Writing

What scientific writers can learn from journalists...

1. **That a clear, succinct, informative writing style is best and...**
2. That holding your reader's attention matters!

# Scientific Writing

1. **That a clear, succinct, informative writing style is best and...**

We were introduced to many of these principles last time.

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Writing in news style:

→ Just the facts, Ma'am.

# Scientific Writing

## Some principles of news writing...

1. Don't use a complicated word when a simple one will do.
2. Avoid jargon, clichés, and euphemisms.
3. Don't cram too much into one sentence.
  - Avoid redundancy and repetition.
4. Use active verbs and follow the usual conversational flow of words
5. Use facts, not opinion.
6. Be specific.

# Scientific Writing

## Some principles of news writing...

1. Don't use a complicated word when a simple one will do.

→ see last week's lesson.

- *Did anyone count average number of letters per word in the newspaper?*

# This is a single sentence...

- Because septin filaments mark the site for cytokinesis, and because there is a specific cell cycle checkpoint that monitors the state of septin filament assembly, that we also discovered such knowledge may allow, ultimately, the development of therapeutic agents and clinically valuable strategies, on the one hand, to impose a permanent checkpoint arrest as a means of halting the growth of malignant cells in various cancers, including breast cancer, and, on the other, to overcome such checkpoints to re-activate proliferation of quiescent differentiated cells (for example, to stimulate multiplication of the residual beta-cells in patients suffering from Type 1 diabetes as a means to repopulate the pancreatic islets with insulin-producing cells).

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## Some principles of news writing...

2. Avoid jargon, clichés, and euphemisms.

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Avoid clichés like the plague...

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## Euphemisms

accept the resignation of  
economically disadvantaged

limited success

pre-owned

underachiever

expire

collateral damage

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“Collateral damage is one of those antiseptic sounding euphemisms that are sometimes more chilling than plain language, so hard do they labor to conceal their human meaning.” --Hendrik

Hertzberg in the *New Yorker*

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## Some principles of news writing...

3. Don't cram too much into one sentence.
  - Avoid redundancy and repetition.

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- *Did anyone count average words per sentence in the newspaper?*
- *Average number of sentences per paragraph?*
- *How do you think it compares to a scientific article?*

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*In news writing, all needless words are eliminated. For example, “that” and “on” are often eliminated:*

- *The meeting happened on Monday.*
- *The meeting happened Monday.*
  
- *They agreed that it was true.*
- *They agreed it was true.*

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**Avoid using two or more words that mean the same thing (redundancy).**

The hero begins to behave strangely and in odd ways following his tryst with a witch he meets secretly at midnight.



The hero begins to behave strangely following his tryst with a witch he meets secretly at midnight.

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**Do not repeat a word unless you need it again for clarity or emphasis (i.e., avoid repetition)**

When he was a student, his favorite classes were the classes that gave no homework.



When he was a student, his favorite classes were those that gave no homework.

When he was a student, his favorite classes gave no homework.

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Caveat: Keep your sentences short but not too short that they are choppy.

Example: (from *Successful Science Writing*)

Two canine cadavers with orthopedic abnormalities were identified. The first dog had an unusual deformity. It was secondary to premature closure of the distal ulnar physis. The second dog had a hypertrophic nonunion of the femur. The radius and femur of both dogs were harvested. They were cleaned of soft tissue.

**\*\*News writers use the dash, semicolon, and colon to merge choppy sentences together (we'll learn how craft deft sentences with these tools next time).**

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- 4. Use active verbs and follow the usual conversational flow of words**

Write with nouns and verbs

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KEY LESSON OF NEWS WRITING:

The active voice vs. the passive voice.

We'll see this again and again and again...

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In the passive voice,

“The agent is AWOL” –*Sin and Syntax*

e.g. “Mistakes were made.”

∴ Nobody is responsible.

*vs. The President made mistakes...*

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Examples...

Passive:

My first visit to Boston will always be  
remembered by me.

**Object**

**Verb**

**Subject**

Active:

I will always remember my first visit to Boston.

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It was found that  $1+1$  does not equal 2.

*The agent* found that  $1+1$  does not equal 2.

It was concluded that the data were bogus.

*The agent* concluded that the data were bogus.

It is believed that the data had been falsified.

*The agent* believed that the data had been falsified.

A recommendation was made by the DSMB committee that the study be halted.

The DSMB committee recommended that the study be halted.

As is shown in Table 3...

Table 3 shows...

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MYTH: The passive voice is more objective.

It's not more objective, just more vague.

Active=claiming responsibility

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Passive:

To study DNA repair mechanics, this study on hamster cell DNA was carried out.

More objective? No! More confusing!



Active:

To study DNA repair mechanics, we carried out this study on hamster cell DNA.\*

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Passive:

Major differences in the reaction times of the two study subjects were found.



Active:

We found major differences in the reaction times of the two study subjects.

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Passive:

Migraine was defined as a headache that lasts for more than 1 hour.



Active:

We defined migraine as a headache that lasts for more than 1 hour.

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**The Active Voice is**

**direct, vigorous, natural, and informative.**

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A note about breaking the rules...

Most writing rules are guidelines, not laws, and can be broken when the occasion calls for it.

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For example, sometimes it is appropriate to use the passive voice.

- When the action of the sentence is more important than who did it (e.g., materials and methods)  
Three liters of fluid is filtered through porous glass beads.
- To emphasize someone or something other than the agent that performed the action  
The Obamas were honored at the banquet.
- When the subject is unknown  
“The professor was assaulted in the hallways”– they do not know the perpetrator of this heinous crime.

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STRONG VERBS carry the main idea of the sentence and sweep the reader along

Put your sentences on a “to be” diet...

Is are was were be been am...

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There are many ways in which we can arrange the Petri dishes.

→ We can arrange the Petri dishes many ways.

There was a long line of bacteria on the plate.

→ Bacteria lined the plate.

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Again, this doesn't mean never use "to be"—it has a distinct purpose in the English language...

Just use it purposefully and sparingly.

“The logic was perverse.”

“..and a few months later the Spanish Empire was gone.”

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And...

5. Use facts, not opinion.
6. Be specific.

(applies equally well to scientific writing)

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Watch out for loaded words (which suggest an opinion):

**savage, primitive, conniving, lazy, superstitious, wily, crafty, docile, backward, bitter, pompous, working class, communist, eco-freak, others?...**

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Be specific...

Police arrested Willie Deeds, an elderly man, after he used a note to rob the bank earlier this year.

Police arrested Willie Deeds, 72, after he used a note to rob the bank in January.

# Scientific Writing

What scientific writers should learn from journalists→

1. That a clear, succinct, informative writing style is best and...
2. **That holding your reader's attention matters.**

# Scientific Writing

News writers follow these tactics...

1. Tell a story
2. Put things into context  
e.g., numerical, historical
3. Focus on people
4. Ask: Would my grandmother care?

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These tactics might also improve scientific writing:

- Can we tell it more like a story?
- Can we add a bit of history?
- Can we emphasize the most important aspects up high and add details later?

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What makes stories newsworthy (developing “news judgment”)?

- Impacts lots of people
- Breaking news
- Timeliness
- Prominence
- Proximity
- Conflict
- Trends (“3 things make a trend”)
- Humor/Surprise

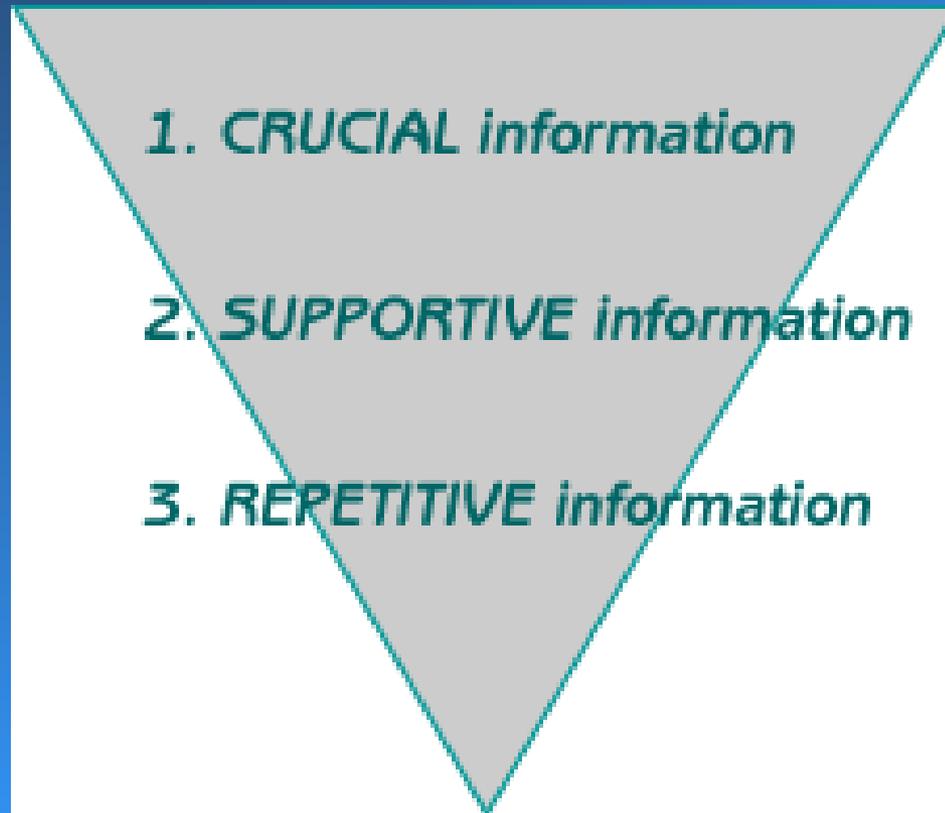
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## Inverted pyramid style

- Place the most important facts at the beginning and work "down" from there. The rest of the article explains and expands on the beginning.
- A good approach is to assume that the story might be cut off at any point due to space limits. Does the story work if we only include the first two paragraphs? If not, re-arrange it so that it does.

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## Inverted pyramid style



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## Crucial Information

### Recall: The Five "W"s and the "H"

- Who? What? Where? When? Why?  
How?

Any good news story provides answers to each of these questions.

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News stories follows a basic formula (just as scientific journal articles do)...

- **Headline**
- **Lead**
- **Nut Graf**
- **First quote (3-6 paragraphs down)—brings in the human element**
- **More details and more quotes (inverted pyramid style)**
- **Kicker**

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## The lead (also spelled “lede”):

- The first ‘graf’
- Grabs the reader’s attention.
- Imparts the heart of the matter (simple and focused).

## Guidelines...

- 1-2 sentences.
- Aim for <35 words.
- Use the main verb to carry the main news, and use action verbs.
- Give complementary, but different information than the headline.
- Provide some, but not necessarily all, of the 5 W’s and 1 H.

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## Beware of these no/no's...

- Leave out names that mean nothing to the reader
- Never start with a quote unless it's the President or the Pope speaking (or it's as evocative as "Craig Venter is an asshole....")
- Never "fool" your reader (i.e., start with something that you're later going to retract or contradict).

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## The kicker!

- The ending.
- Leaves the reader feeling satisfied.
- Often circles back to the lead.
- A quote is often very effective.

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And finally...

This week's top 5 countdown:

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## 1. Fewer vs. less

- Fewer goes with a countable number
- Less goes with a mass quantity
  
- I'm trying to eat fewer calories.
- I'm trying to eat fewer grams of fat.

BUT...

- I'm trying to eat less fat.
- “Use less if there’s no ‘S’”

# Scientific Writing, HRP 214

## 2. She and I OR She and me?

Use XX and I for the subject of the sentence (“nominative case”)

*You and I went to the park.*

But use XX and me for the object of a verb or preposition (“objective case”)

*Just between you and me, I think that this professor is boring.*

Trick: If you'd use “him” or “her” instead of “he” or “she” → then use “me” instead of “I.”

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## 3. Who vs. whom

Same idea → who is the subject and whom is the object  
Again, if you'd use *him* or *her*, use *whom*.

- Who is it?
- She called to Beth, who (she believed) was nearby.
- [To] whom did you mean to call?
- The message was meant for whom?

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## 3. Who vs. whom

“Then he’ll buy a plane ticket to Baghdad, to visit his mother and his sisters and his eighteen-year-old girlfriend, whom he has never seen, except in the picture that his mother sent when she selected the girl for him.”

‘he has never seen her.’

‘∴ ‘he has never seen whom.’

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## 4. It's vs. its

It's is the contraction of "it is."

It's true.

Its is possessive.

*The car stopped working after its battery died.*

→ If you can substitute "it is" or "tis" use it's.

*'Tis true.*

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## 5. As vs. like

Use “as” to introduce clauses (compare action)

We spent the evening as (we did) in the old days.

We wrote down every step, as good scientists should.

Use “like” (sparingly—more formal to use “similar to”) to compare nouns and pronouns

OK: Her cat is like a dog.

More formal: Her cat is similar to a dog.

**BUT...**

Her cat acts as a dog would.

Note: “Her cat acts similar to a dog” does not work. Therefore, don’t use ‘like’!

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## Preview to next time...

- For next time...
- We begin our systematic review of the basics of writing.

Words → sentences → paragraphs

“punctuation and parallelism”