

Reviews in Computational Biology

2. Review Writing



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Bibliography Manager

- You found a good paper. Record citation!
- Don't type it, use a tool.
- Export to BIBTEX format.





Organize ideas, structure narrative

Key Questions

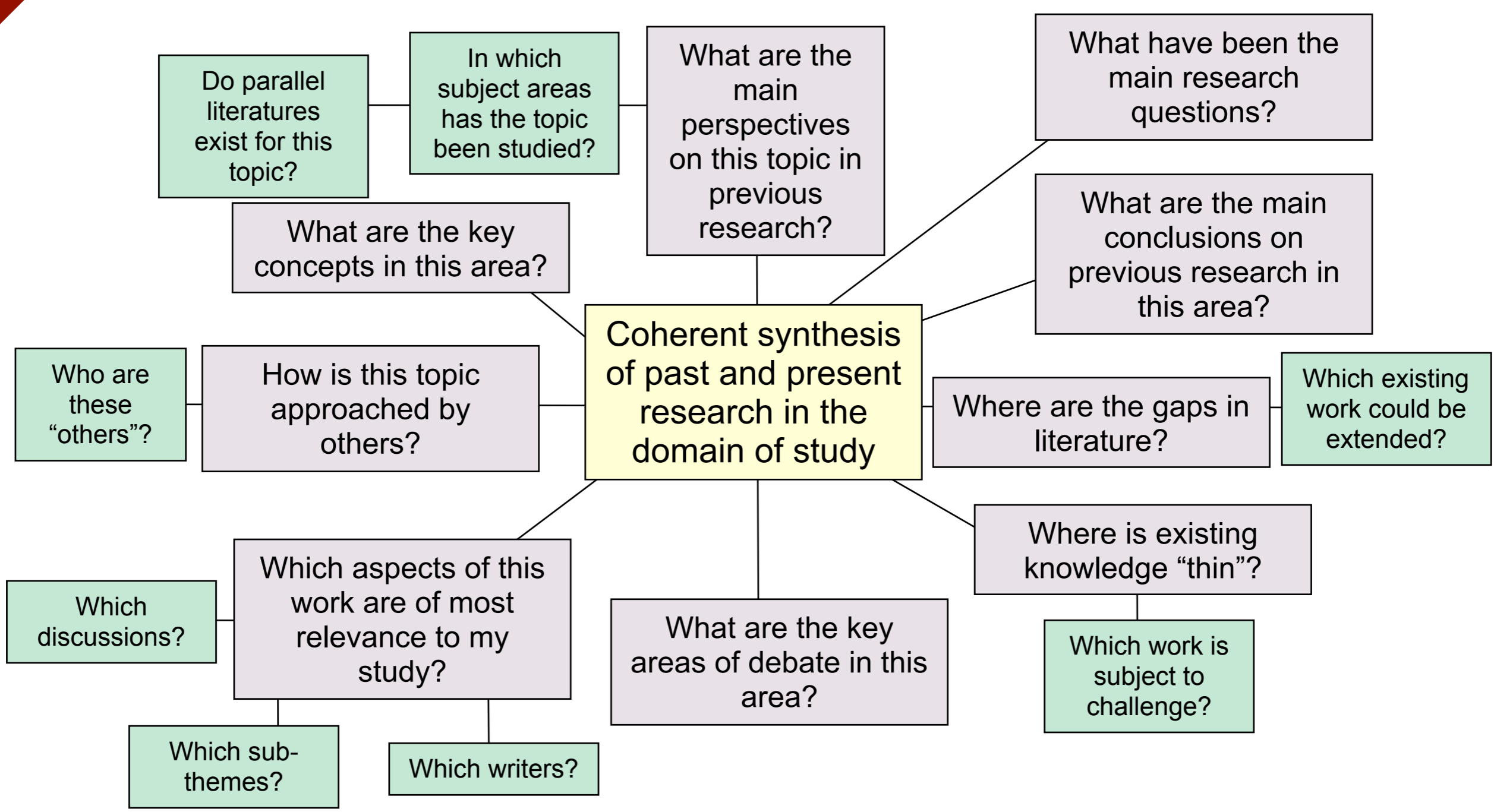
- **What is the hypothesis/problem/question?**
- **Why is it interesting?**
- **What answers are provided by current literature? How did they do it? Implications?**
- **Which particular studies are particularly interesting and why?**
- **What is unsatisfactory about current literature? What remains unanswered?**

**Distill the answers into
your synthesis**

In other words:

What is your point?

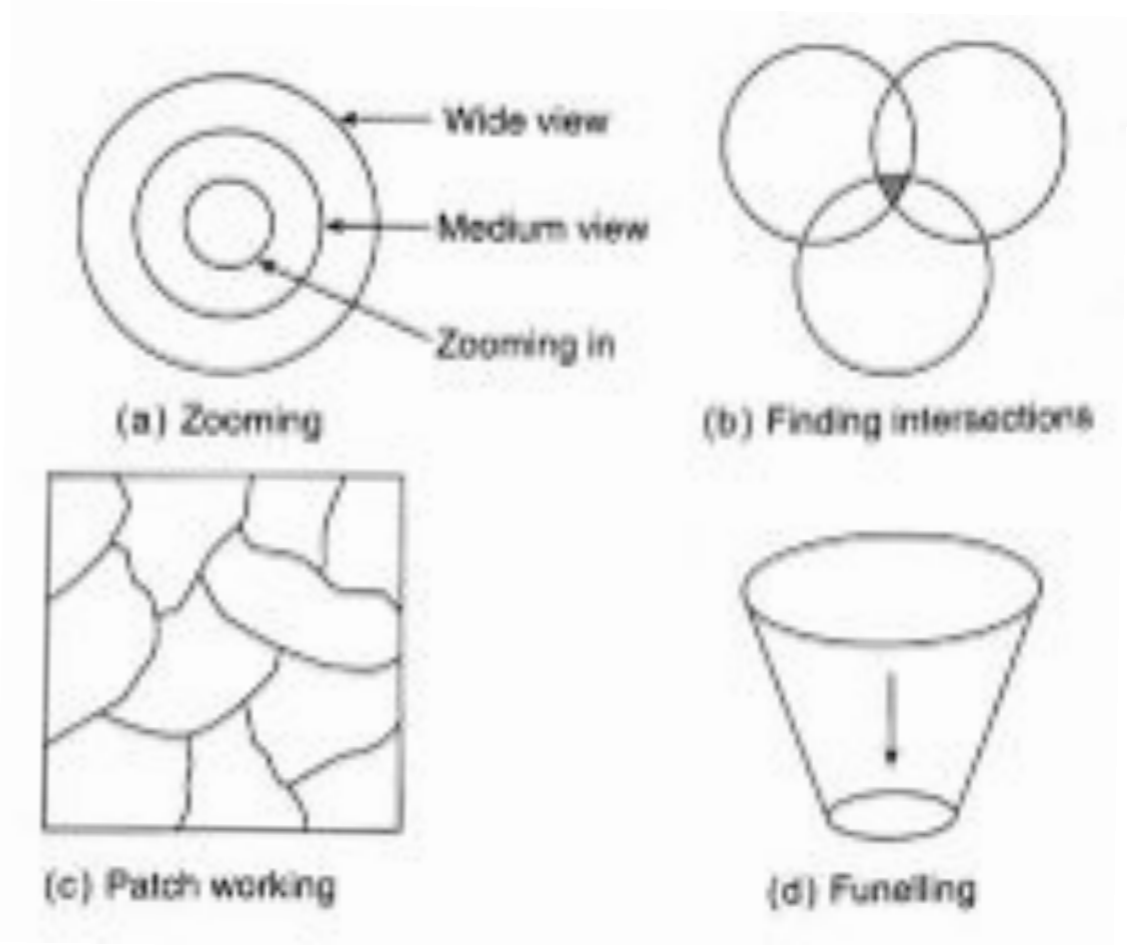
More Questions



Typical structures

- Chronological
- Conceptual (e.g. pro/contra)
- Experimental/
Methodological
- Centered on
Implications

But: remember your point!



Ridley, "The Literature Review", 2008



Write first draft

Know your reader

- **What can the reader be assumed to know?**
 - Read the journal editorial policy
 - Read similar articles published there
 - Err on side of caution, but avoid condescending or educational tone
- **For this course, assume that your reader is a student of the CCBI Master's programme.**
 - But keep a formal tone

The Title

- **Signals the field and scope**
- **Includes your main point**
- **Arouses interest of the readers**

The Abstract

- **Introduces field in 1-2 sentence(s)**
- **Motivates your review**
- **Announces important points**
(reformulates subheadings and main point)
- **Includes relevant keywords** (for indexing)

The Introduction

- **Set the context from general to specific**
 - Show that the research area is important/interesting/relevant.
- **Establish a niche**
 - Show need for your work (the review)
- **Occupy the niche**
 - Announce your main point
 - Indicate structure of article

Heather Murray, "Writing Reserach Papers for Publication", 2008

The Main Body

- **Use subheadings for each section**
 - One sentence summary/conclusion
 - Helps non-linear reading
- **If appropriate, use a figures and/or tables**
 - Review figs are often schema/cartoons
 - Use caption to make them self-descriptive

The Conclusion

- **Specific → general**
 - Mini summary
 - Broader implications, future directions

Drafting: outline

Introduction

Identity of research:

This report will discuss using solid particles as the heat transfer medium in a solar central receiver. Requirements for such a heat transfer medium include

- (1) Heat transfer medium must withstand temperatures up to 800°C
- (2) Convective losses from medium must not be too high (define "too high")
- (3) What else?

Reasons that research is important:

- (1) Diversifies solar energy applications by obtaining higher temperatures than those obtainable from current designs
- (2) Allows for high-temperature experiments and modeling

Background material (heat transfer media):

- (1) Water/steam. Advantages: utilizes familiar with; test data available. Disadvantages: not efficient enough; difficult to control in two-phase flow.
- (2) Molten Salt. Advantages: relatively high heat capacity; high storage capacity; single-phase fluid. Disadvantages: freezing in pipes; corrosive nature.

Michael Alley, "The Craft of Scientific Writing", 1996, page 240

Drafting (con't)

- **Keep in mind that every claim needs to be backed by some evidence (in reviews, typically a reference)**
 - Either report the findings only
 - or paraphrase their approach and findings
 - or use quotations (do not distort context)
- **Best way to start writing is to start writing**

Beware of Plagiarism!

- If you include exact wording, use quotation marks and reference
- If you paraphrase, use a reference only



(Full text linked from course homepage)

TagesAnzeiger

FRISTAG, 20. FEBRUAR 2011 | LETZTES UPDATE: 09:47 Uhr

WETTER: Zürich 4°



«Outdoor»: Der Sportmarkt ignoriert Menschen ab 50. Schön blöd.



«Sweet Home on Sunday»: Ideen, Tipps, Rezepte – wir machen Frühlingslaune.



«Mamablog»: Ein Märchen von der guten Fee und den achtlosen Menschen.

ZÜRICH SCHWEIZ AUSLAND WIRTSCHAFT BÖRSE SPORT KULTUR PANORAMA LEBEN AUTO DIGITAL WISSEN MEHR

Kantone starten Technologie-Offensive gegen Plagiate



Der Plagiatsvorwurf an Gutenberg bringt Schweizer Bildungsinstitutionen zum Handeln: Zehn Kantone ergreifen konkrete Massnahmen gegen Schummelschüler – mit Hilfe von modernster Technik. [Mehr...](#)

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Meistgelesen Mehr...

- 1 «Wer nichts tut, macht mit»
 - 2 Sportkommentator Hans Jucker ist tot
 - 3 USA sehen Liechtenstein als Vorbild und die Schweiz als Sorgenkind
 - 4 Ghadafi setzt auf Zensur und Scharfschützen
 - 5 Operation Lampenfisch: Die Schweiz hilft mit
- [» 5 Stunden Flicker](#)

Demokratie im Vormarsch



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Plagiarism case professor hanged himself

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- Latest in News**
- Up to 25 killed in Damascus blast, says Syria
- David Cameron targets patient care improvement
- Rebekah Brooks' former PA arrested by phone hack police
- From Afghanistan to the ambulance: the warzone drug that will save hundreds of lives
- Independent Appeal: Working with terminally ill children is Lucy's dream job – but it takes its toll

A DEPRESSED university professor hanged himself in front of his girlfriend after being sacked for plagiarising a student's work, an inquest heard yesterday.

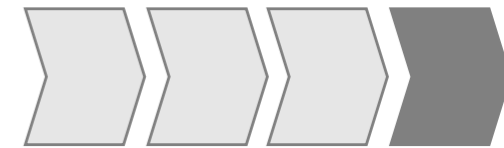
Birmingham Coroner's Court heard Ian Connell "walked into" a makeshift noose at his home after telling his partner: "I've got something to show you."

He died almost immediately.

The academic felt he had been "left high and dry" after losing his position at Wolverhampton University, his long-term partner sa

Suzanne Orsler told how Dr Connell, 49, hanged himself with a

- Suggested Top**
- Wolverhampton
- University Of The Arts London
- Higher Education
- Unemployment



Edit and revise

Improve Flow

- **Start each paragraph with a topic sentence**
It signals paragraph content to the reader
- **Improve cohesion**
Connect sentences through conjunctions, parallel structures, repeated keywords, pronouns, “old-new” pattern, etc.
- **Remove unneeded/redundant words**

Final checks

- **Spelling: use automated spell-checker (e.g. ispell) *and* proofread your text carefully.**
- **Verify one more time**
 - that references are accurate and complete
 - that each claim backed by citation
 - that your narrative is coherent
 - that the article meets editorial policy (in particular length requirements)
- **Ask a colleague for feedback on draft** (thank for his/her help in Acknowledgement section)

Resources

Joseph M Williams, “Style”, 1990

Diana Ridley, “The Literature Review”, 2008

Rowena Murray “Writing for Academic Journals”, 2004

Cargill and O'Connor, “Writing Scientific Research Articles: Strategy and Steps”, 2009

Scott Montgomery, “The Chicago Guide to Communicating Science”, 2002

Michael Alley, “The Craft of Scientific Writing”, 1996