



THE UNIVERSITY *of* EDINBURGH
Centre for Open Learning

English Language Education

Academic Writing for Informatics Postgraduates



Aims

- To provide an overview of key features of academic writing
- To highlight how you can integrate sources into your writing in a way that supports your arguments and places your voice at the centre of your writing
- To help you identify aspects of your academic writing that you may need to focus on
- To provide guidance on reviewing, editing and proofreading (reference slides)

Three KEY points

English is a **writer-responsible language**. This means

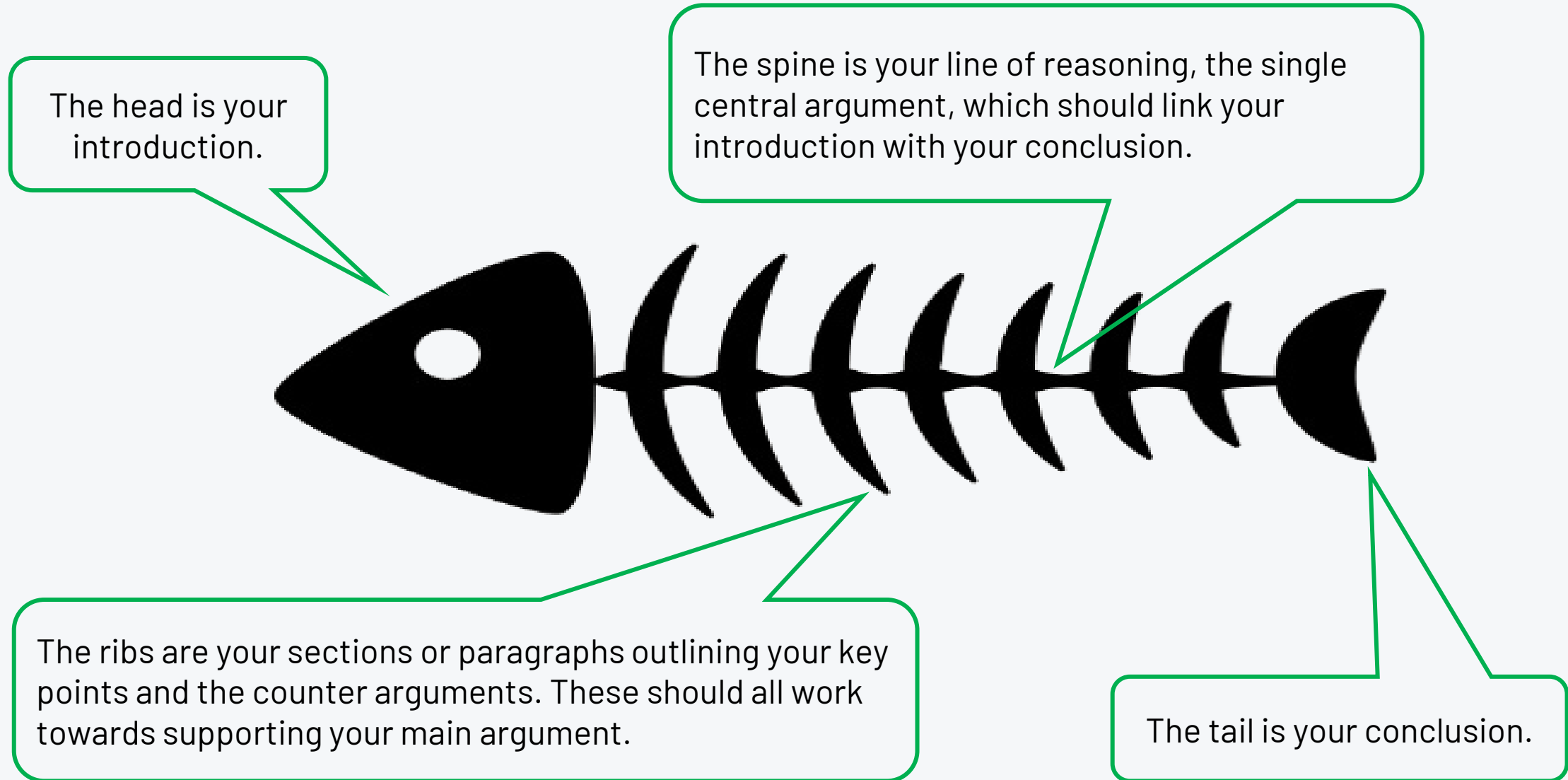
- it is **your** job to make your meaning clear to your reader
- you need to provide explicit transition **between ideas within paragraphs/chapters, and between each paragraph/section.**

When deciding what to write, ask yourself the **right** question

- Ask “What does my **reader** need to know?”
(not “What should **I** write about?”)

Remember **your voice**. That is what the **marker** is looking for.

Developing your argument: Visualizing the development of your argument



Criticality

Describe

- What is the text about
- What is the author's aim?
- What evidence does it give?

Analyse

- How reliable is the evidence?
- How do the parts fit into the whole?
- What alternatives are there and how do they compare?

Evaluate

- What do I think about this?
- What are the implications?
- How is this relevant to my argument and why is it important?

Last year's feedback

- **Managing expectations:** including structure, order of ideas & length/balance of sections
- **Style:** consistency of tone & objective (keep emotions out of it: *distressing uncomfortable*)
- **Criticality:** YOUR voice, choice of verbs when citing sources, description vs analysis & evaluation
- **Claims:** evidenced with examples and/or citations, appropriately hedged
- **Clarity:** define terms, explain your ideas, leave no gaps & make no assumptions
- **Sources:** currency, accuracy & consistency of referencing
- **Revising, editing & proofreading**

What makes
academic writing
'academic'?



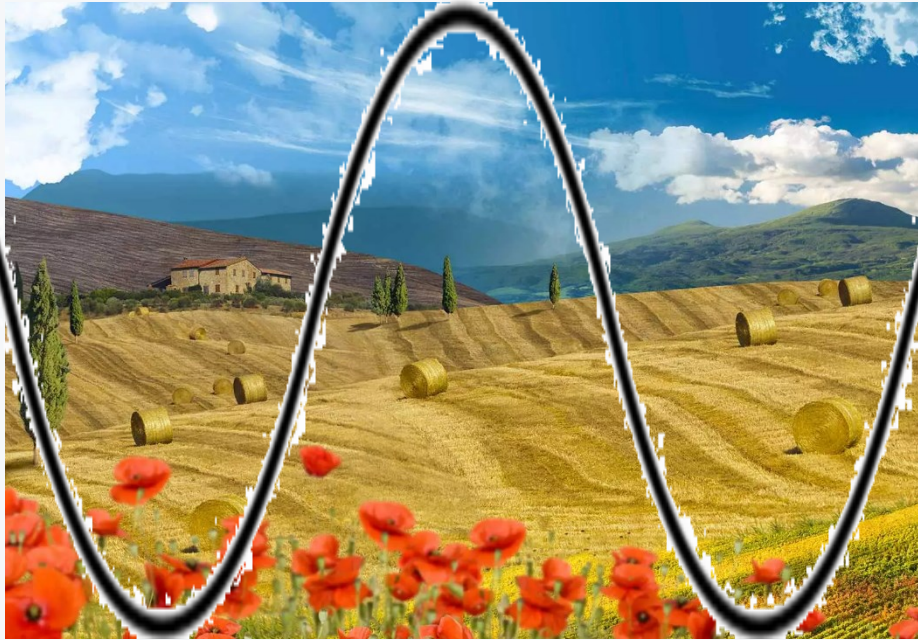
Clarity

1. Explicitness & Accuracy
2. Text structure & Paragraphing
3. Coherence and cohesion
4. Logical information flow

Explicitness and Accuracy

- In academic writing your task is to present clear arguments and report information accurately and objectively.
- Write down each stage in your **reasoning** as clearly as possible. Don't rely on implication or suggestion – these may be interpreted in a different way or not understood at all.
- Explain all links between ideas clearly. Be specific & clear about **reasons**. Make careful use of appropriate linking techniques.
- Use concrete, practical **examples** to illustrate general or abstract points. If you don't, your ideas may seem too theoretical or vague.

Wave approach to writing



1. More abstract concepts/theories & principles (blue sky!)
2. More general discussion of insights, patterns/practices
3. More specific contexts, concrete examples, etc.

General



Specific

Paragraphing and Text structure

Critically evaluating your sources: Writer's voice

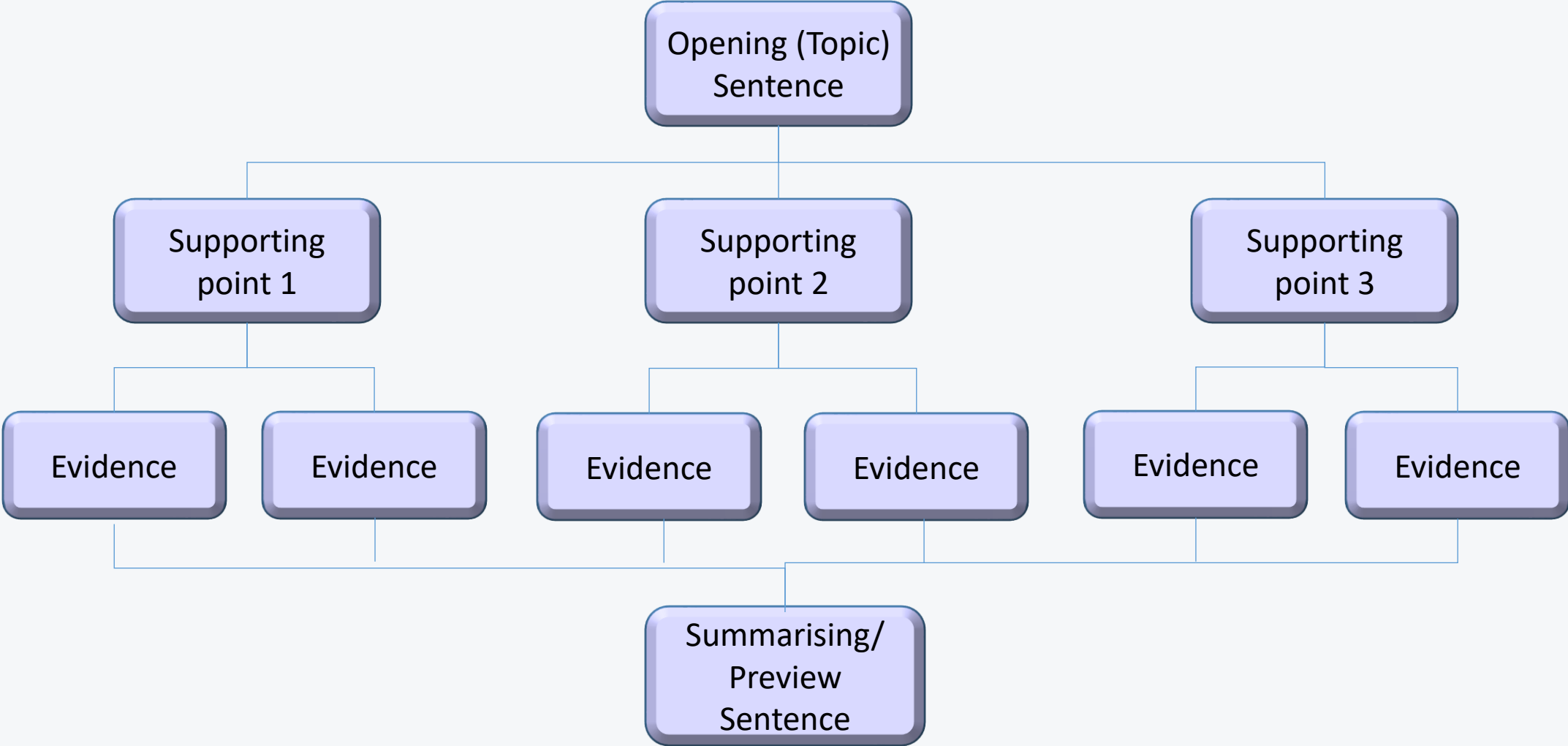
Remember YOUR VOICE

1. Make your unattributed assertion at the start of paragraphs followed by evidence, findings, arguments from your sources.
2. Explicitly tell your reader what the connections are between sources.
3. Explicitly tell your reader what the connections are between those sources and your main assertion.
4. Show your strong agreement/disagreement/cautious agreement/etc. with the sources.
5. Include "so what" summary sentences (evaluative sentences) at the end of paragraphs.



Taken by Andy Morffew
<https://www.flickr.com/photos/andymorffew>

Developing your argument: Paragraphing



Developing your argument: Colour coding paragraphs

Technological innovations, which have seen cars become increasingly connected, have facilitated the creation and ecosystem for new services to exist. Services such as on demand transportation and greater emphasis on in-car-infotainment¹ require new business models to be developed to accompany them (Athanasopoulou, et al, 2019). While these services currently exist within a halfway-house solution, in order to be exploited to their full potential, a shift to an as-a-service model is necessary. Santos et al. (2009) defines business model innovation as the “reconfiguration of activities in the existing business model of a firm that is new to the product/service market in which [they] operate.” This definition is important in relation to Chesbrough and Rosenbloom’s (2002) work which states the need for new innovations to have an accompanying competent business model. For businesses to be successful, there needs to be a substantial reconfiguration of the business model to compete sufficiently and fully exploit technological developments, which are currently just seen as features of the overall product and not unique services in their own right.

Must every paragraph have a 'topic sentence'?

- Not necessarily (you may break up a complex or extended discussion point into a series of related paragraphs for improved clarity)
- You start a new paragraph when you move on to a new (sub)topic / point, so you need to make the change of topic or focus clear to your reader.
- An effective way to do this is to begin the new paragraph with a sentence announcing the new topic / point or end the previous paragraph with a preview of the next.
- However you do it, you must clear the link to the reader.

Topic sentences & linking between paragraphs

The success of website fingerprinting attacks have led to the techniques being applied to other domains too. Encryption of HTTP traffic has been around since the early 2000s but encryption of DNS (Domain Name System) traffic has only recently started to become mainstream with two competing protocols, DNS over HTTPS and DNS over TLS. These protocols are also vulnerable to fingerprinting attacks and the current state of the art was developed by Troncoso et al. who used a Random Forests classifier to obtain classification accuracies above 90% [17]. However to our knowledge deep learning techniques have not been tried on encrypted DNS, and while there are some defenses developed to evade fingerprinting attacks such as EDNS(0) padding, they are not at the same level of sophistication or effectiveness as WTF-PAD or Walkie Talkie [17].

Another area of application is fingerprinting smartphone apps using traffic analysis of app network communications. Taylor et al. used machine learning techniques to identify ...

Not necessarily ...

The underground economy was a big problem for the authorities long before cryptocurrencies, or even the internet, came into the scene. Yet, it has been claimed that cryptocurrencies have radically influenced the black market landscape by “enabling black e-commerce”. [6] **Darknet markets**, which in their majority run on cryptocurrencies, give people the opportunity to purchase illegal goods, such as drugs or weapons, from the comfort of their home, without having to reveal their identity.

Silk Road (2011 - 2013) was the first online marketplace to rely on Bitcoin as a form of payment, but countless others have followed its example ever since, ensuring the overall resilience of online illegal trade, despite the frequent takedowns by law enforcement agencies all over the world. In fact, 2019 marked the year of the highest participation in darknet markets since their creation, resulting in a revenue of over USD 790M worth of cryptocurrency, while at the same time the share of cryptocurrency transactions associated with these markets doubled since 2018. [3]

In summary:

- One paragraph should focus on one issue
- Begin each paragraph by stating the issue/point you will discuss.
- Develop, explain and discuss (i.e., support) that point.
- Evidence to back up what you are arguing.
- Conclude the paragraph by explaining how this issue/point/argument is relevant to answering the research question.
- Link to the next paragraph.

Coherence and cohesion

- **Coherence** refers to the overall connection between ideas in your writing. It is achieved through:
 - clear argument
 - logical structure
 - use of cohesive devices
- **Cohesion** refers to the use of **cohesive devices** to connect sentences together grammatically. Cohesive devices are the 'glue' that sticks your ideas together, and helps you to achieve **coherence**, making the writing 'flow' for your reader.

Example cohesive devices

There are many different types of cohesive devices, including:

- **Referencing**

- pronouns such as **s/he, her/him, it, this, that, these, those**
adverbs such as **here & there**

- **Lexical cohesion**

- Word families: **economy, economic, economically, economies, economists, uneconomical**
- Related words: **writing, writer, reader, main ideas, dissertation, words**
- Repetition
- Synonyms, antonyms

Example cohesive devices

There are many different types of cohesive devices, including:

- **Conjunctions or linkers and signalling phrases**
 - **However, for example, as a consequence of, firstly, furthermore, in spite of, on the other hand**
- **Substitution**
 - phrases such as (**not**) **doing so** ; e.g. **people/majority**

All work should be referenced appropriately. Failure **to do so** will result in a grade of zero for the assignment.

234 patients were surveyed about their clinical experience. **The majority** expressed total satisfaction with the service they received.

Quickly read the description about the process of making saffron on the next slide.

Q: Did you find it easy to read?

Q: Why?



Saffron is a spice comprised of reddish-brown threads that, when used in cooking, impart a golden colour and earthy, subtly sweet flavour profile to a variety of dishes. The spice is harvested from *crocus sativus*, a flower commonly referred to as the saffron crocus. Saffron refers to the threads, or stigmas, inside the flower. The crop is gathered once a year, from mid-October to mid-November. The most crucial task during the harvest is separating the red-coloured threads from the flower, which is the essence of saffron spice. Each thread consists of three delicate strands, making the harvesting process require meticulous caution and care. The strands are sun-dried, a delicate step where they must be evenly spread on a white sheet. Subsequently, they are preserved in a cotton cloth to ensure continuous air circulation, thus preventing any moisture and rot. Saffron is grown in various parts of the world, including Kashmir, which is well-known for producing the darkest variety known as Mongra, a single strand of which is sufficient to infuse an entire dish with its luxurious aroma and flavour.

Slightly adapted from a tweet thread by Bayt Al Fann Museum, Oman
<https://twitter.com/BaytAlFann/status/1685586042445791232>

Saffron is a spice comprised of reddish-brown threads that, when used in cooking, impart a golden colour and earthy, subtly sweet flavour profile to a variety of dishes. **The spice** is **harvested** from crocus sativus, **a flower** commonly referred to as the saffron crocus. **Saffron** refers to the **threads**, or stigmas, inside **the flower**. **The crop** is gathered once a year, from mid-October to mid-November. The most crucial task during **the harvest** is separating **the** red-coloured **threads** from **the flower**, which is the essence of **saffron spice**. Each **thread** consists of three delicate **strands**, making **the harvesting process** require meticulous caution and care. **The strands** are **sun-dried**, **a delicate step** where **they** must be evenly spread on a white sheet. **Subsequently**, **they** are preserved in a cotton cloth to ensure continuous air circulation, thus preventing any moisture and rot. **Saffron** is grown in various parts of the world, including Kashmir, which is well-known for producing the darkest variety known as **Mongra**, a single strand **of which** is sufficient to infuse an entire dish with **its** luxurious aroma and flavour.

Logical Information flow

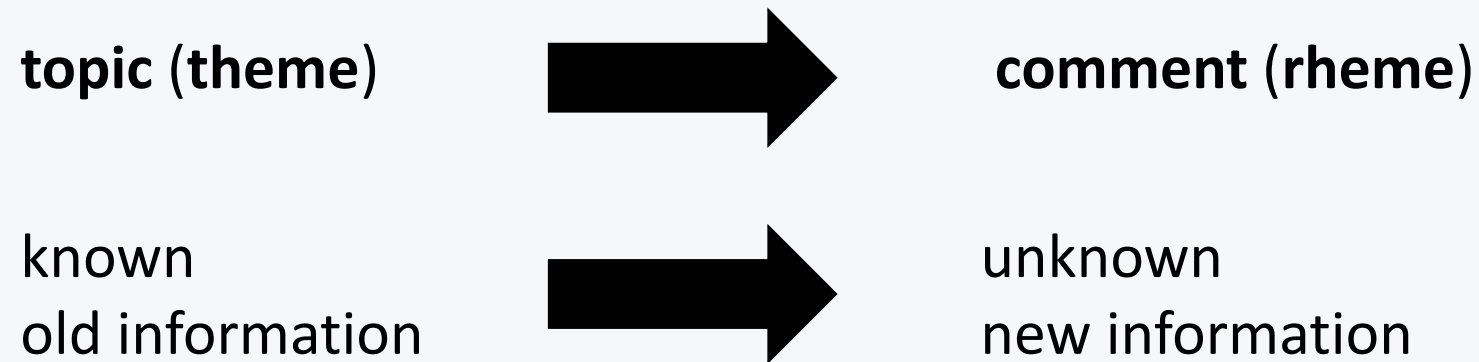
What is information flow?

Another important consideration for successful communication is **flow** – moving from one statement in a text to the next. Naturally, establishing a **clear connection** of ideas is important to help your **reader follow the text**.

Swales and Feak (2004) *Academic Writing for Graduate Students*

Sentence structure & linking

In English sentences, old (or given) information usually comes before new information.



- The **theme** is what you are writing about - it is *old, known* or *given* information.
- The **rheme** is what you are saying about the **theme** - it is *new* information, what you want to tell your reader.

Sentence structure & linking

Can you identify the **theme** (topic) and **rheme** (comment)?

1. The M8 goes from Edinburgh to Glasgow.
2. The motorway from Edinburgh to Glasgow is called the M8.

Sentence structure & linking

Identify the **theme** (topic) and rheme (comment):

1. **The M8** goes from Edinburgh to Glasgow.
2. **The motorway from Edinburgh to Glasgow** is called the M8.

Information flow in paragraphs

Paragraph units are most effective when they either

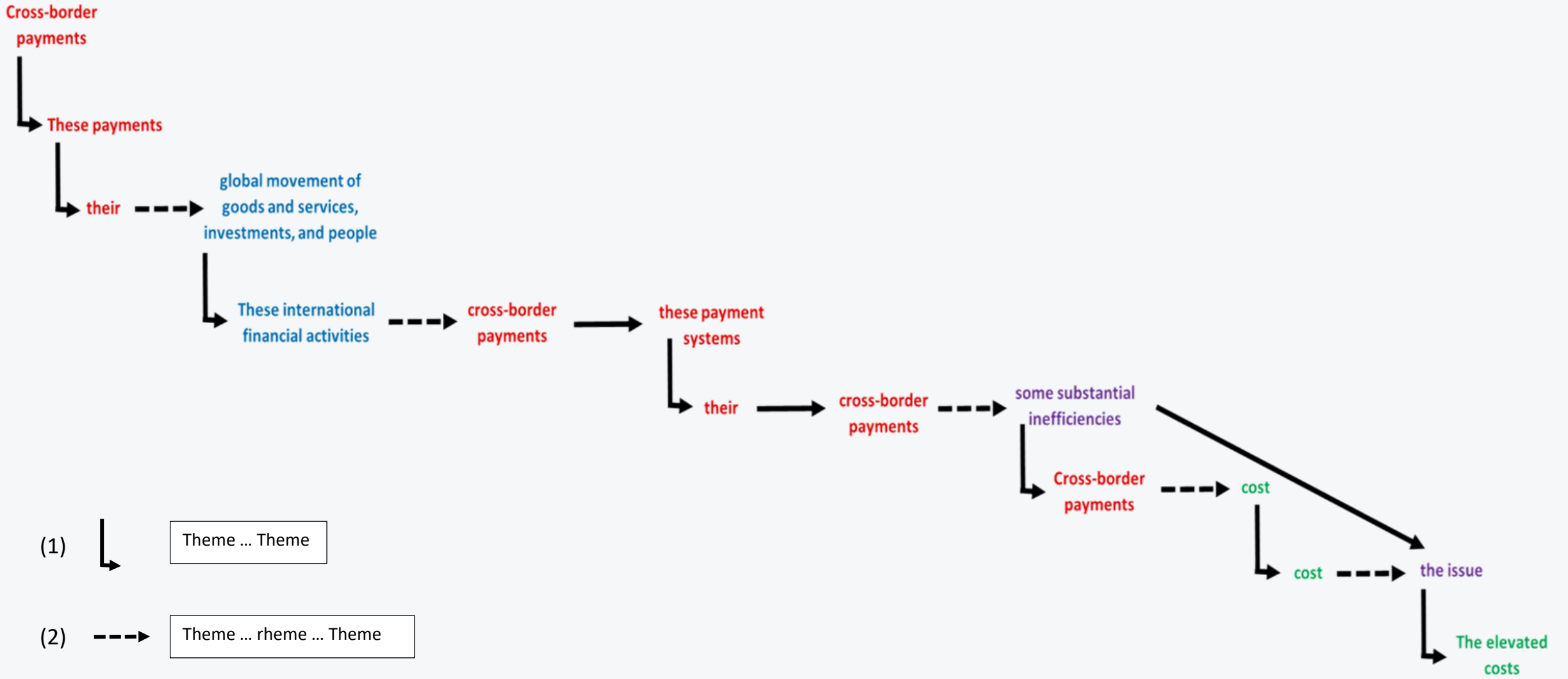
- 1** discuss a single topic; or
- 2** discuss a series of related topics that build on one another. You can fulfil reader expectations by maintaining a **logical flow** of grammatical subjects in a paragraph.

There are two main ways of doing this:

- 1** Maintain a common subject throughout a one-topic paragraph
- 2** Shift the subject appropriately according to the story

Example

Cross-border payments have emerged as a fundamental pillar of the global economy. **These payments** facilitate the transfer of funds from a sender in one jurisdiction to a beneficiary in a different jurisdiction [1]. In recent years, **their** economic importance has grown in conjunction with the acceleration in the **global movement of goods and services, investments, and people** [2]. **These international financial activities** depend extensively on wholesale **cross-border payments** to enable the transfer of approximately \$25.9 trillion¹ annually, positioning **these payment systems** as global economy's arteries. Despite **their** vital roles, **cross-border payments** continue to exhibit **some substantial inefficiencies**. **Cross-border payments** are comparatively less efficient than domestic payments in four primary areas: **cost**, speed, accessibility, and transparency [3]. In terms of **cost**, **the issue** encompasses multiple components, such as transaction fees, compliance costs, foreign exchange (FX) conversion rates and fees, and liquidity costs for prefunding [3, 4]. **The elevated costs** are an immediate consequence of implementing the correspondent banking [3, 5] mechanism which involves sequential payments processing through several intermediaries from several jurisdictions.



Quick response survey

Please take a couple of moments to answer this really short survey about this lecture – just 4 questions!

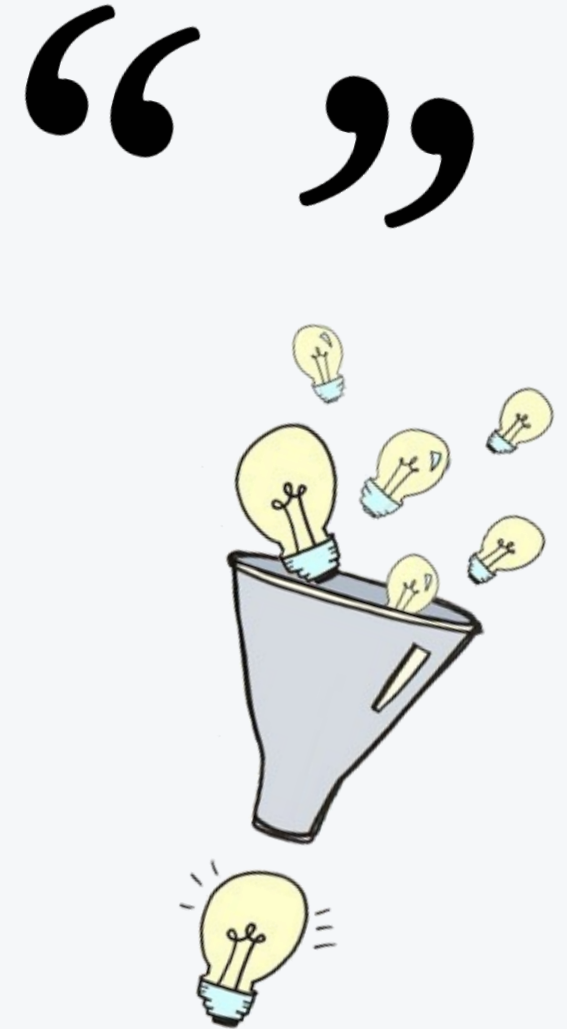
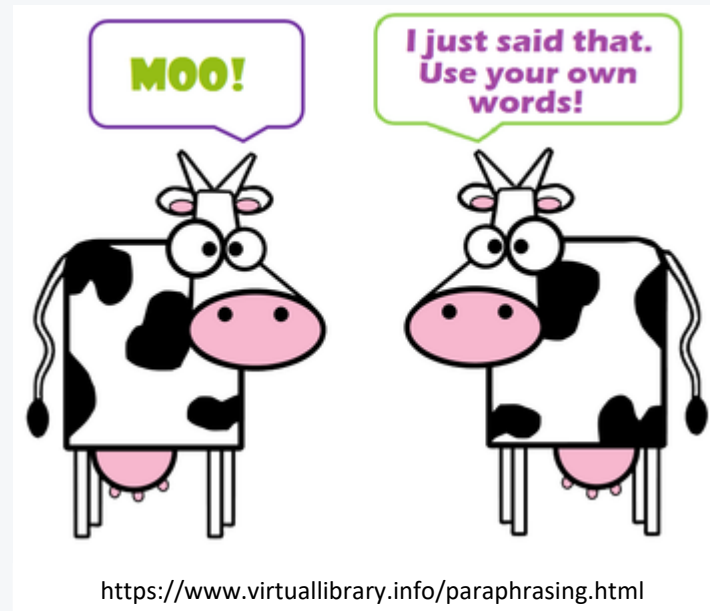


Addendum

Integrating your sources into your writing

- Quote Directly
- Paraphrase
- Summarise

- Synthesise



Integrating your sources into your writing

Quote Directly

Purpose: to cite a beautifully explained or phrased idea that you couldn't improve on or to repeat a famous quotation or cite an authoritative source.

Example: As Darwin (1860: p81) explained, *“This preservation of favourable variations, and the rejection of injurious variations, I call natural selection.”*

Integrating your sources into your writing

Paraphrase

Purpose: to keep all the content but reformulate the original to fit the focus and flow of your own purpose/argument.

Example: *With child vaccination rates falling, are parents who opt out putting everyone at risk? (Smith & Jones, 2016)*

Paraphrase for a paragraph about vaccination rates: *The decline in the number of child inoculations due to parental anxiety may be increasing the risk of disease in the population. (Smith & Jones, 2016)*

Paraphrase for a paragraph about health issues and parents: *Nervous parents may be increasing the risk of disease in the wider population by refusing to have their children vaccinated. (Smith & Jones, 2016)*

Integrating your sources into your writing

Summarise

Purpose: to condense the scope and emphasis of a relatively large amount of material efficiently and concisely.

Example:

World politics is entering a new phase, and intellectuals have not hesitated to proliferate visions of what it will be: the end of history; the return of traditional rivalries between nation states; and the decline of the nation state from the conflicting pulls of tribalism and globalism, among others. Each of these visions catches aspects of the emerging reality. Yet they all miss a crucial, indeed a central, aspect of what global politics is likely to be in the coming years.

It is my hypothesis that the fundamental source of conflict in this new world will not be primarily ideological or primarily economic. The great divisions among humankind and the dominating source of conflict will be cultural. Nation states will remain the most powerful actors in world affairs, but the principal conflicts of global politics will occur between nations and groups of different civilizations. The clash of civilizations will dominate global politics. The fault lines between civilizations will be the battle lines of the future. Source: Huntington, S. P. (1993). The Clash of Civilizations. *Foreign Affairs*, 72(3), 22

Example Summary: *According to Huntington (1993), while nations will retain their global power, the future of world politics is likely to be dominated by clashes between different cultures and civilisations rather than by the international rivalries or national breakdowns of the past.*

Integrating your sources into your writing

Synthesise

Purpose: to combine different information and ideas from a range of sources and integrate them into your text in order to identify a gap and subsequently develop your own argument. This requires critical reading and thinking to identify similarities, differences, connections, cause & effect and bring them together into a logical and cohesive whole. Essentially, you use your own words (summarising and paraphrasing). Remember to reference every source you use.

Example: *Individuals are classified as either an extrovert or an introvert. Extroversion describes people who are outgoing, sociable, assertive, and optimistic and are in search of excitement (McAdams 2014; McShane & Travaglione 2015). Extroverts are confident in their abilities to accomplish tasks effectively and have faith in themselves. They enjoy risk taking, but can be unreliable and can lose their temper easily (Mathews, Deary & Whiteman 2013). Extroverts also focus more on the positive aspects and outcomes of life and therefore they have a greater level of self confidence. **On the other hand**, introverts are described as being shy, quiet, withdrawn, less likely to make bad impulsive decisions and are more cautious in their actions (Mathews, Deary & Whiteman 2013; McAdams 2014; McShane & Traviglione 2015). As a consequence, introverts are more likely to place weight on the negative outcomes and aspects of social situations (McAdams 2014) and prefer to be alone, **whereas** extroverts have the ability to make friends quickly.*

Language of Synthesis

Linking words/phrases and reporting verbs can help you understand synthesising when reading and synthesise effectively when writing, ensuring the connections between your sources are clear to the reader. Note the use of linking words/phrases and reporting verbs.

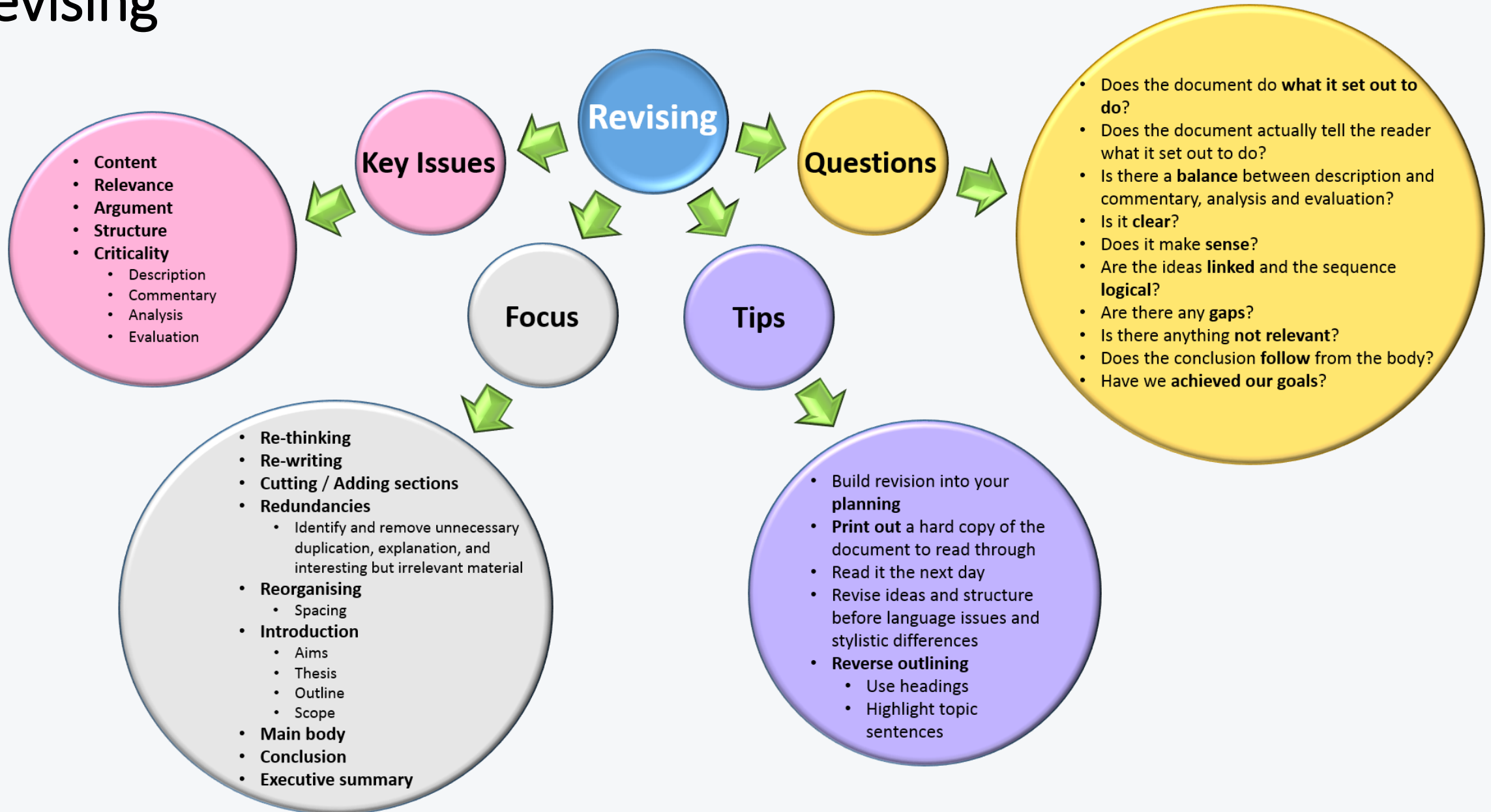
- “This way of thinking is **supported** by Henslin (1996) who **also suggests**... Holborn and Langley (1998) **agree** with this, **stating**...”
- “In her study, Smith (2006) **concluded** that there was a considerable difference in how the ancient humans used stone tools... **Similarly**, Roger’s (2006) research **reported** that there was **indeed** a link between humans’ habitat and what stone tools they used...”
- “For example, Jones (2006a), Smith et al. (2007) **and** Siddle (2009) **emphasise** the fact that... **On the other hand**, Lee (2005) and Rigney (2008, 2009) **maintain** that, **despite** these tendencies, there is convincing evidence to show that...”
- “The most relevant perspectives tend to **emphasise** the general direction towards ... For instance, Smith and Lee (2007) **argue** that the main reason for... is... **Likewise**, Honda (2007), Park (2008) and Chung (2008) **maintain** that current models must address the problem of... **In contrast**, Turner (2008), Finlay et al. (2008) and Shiina (2007) **offer** valid counterarguments in that...”

Integrating your sources into your writing

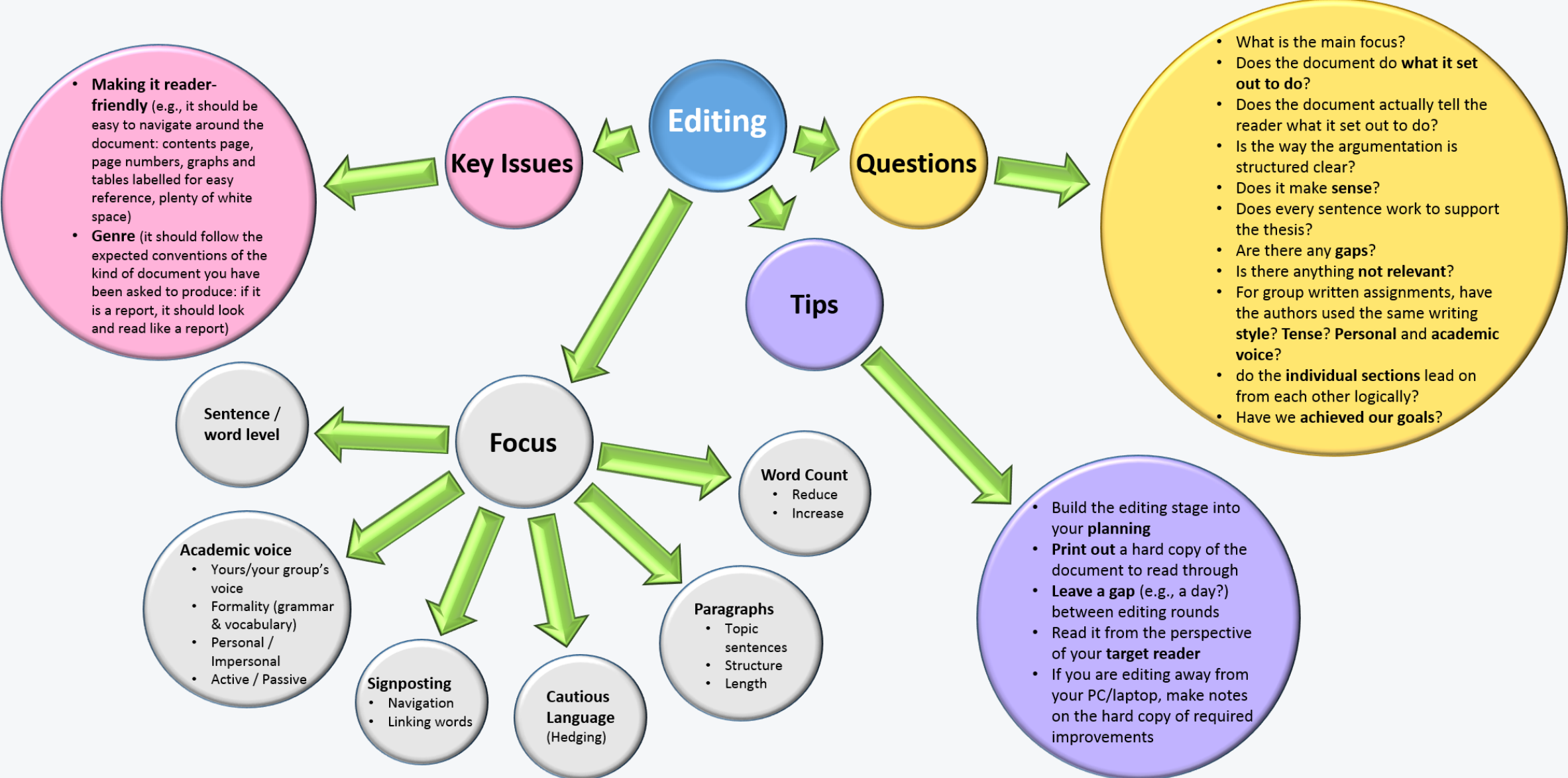
Source Integration: common pitfalls

- Not distinguishing clearly which viewpoint/s belong to which author/s
- Listing authors separately or one by one, thus not grouping relevant authors or points together
- Giving too much detail about different perspectives rather than being selective of the key features relevant to your line of argument
- Describing the idea/argument but not explaining the significance to your own argument or point you are trying to make.
- Key Feature = absence of **critical evaluation** of sources cited!

Revising



Editing



- **Making it reader-friendly** (e.g., it should be easy to navigate around the document: contents page, page numbers, graphs and tables labelled for easy reference, plenty of white space)
- **Genre** (it should follow the expected conventions of the kind of document you have been asked to produce: if it is a report, it should look and read like a report)

- What is the main focus?
- Does the document do **what it set out to do**?
- Does the document actually tell the reader what it set out to do?
- Is the way the argumentation is structured clear?
- Does it make **sense**?
- Does every sentence work to support the thesis?
- Are there any **gaps**?
- Is there anything **not relevant**?
- For group written assignments, have the authors used the same writing **style**? **Tense**? **Personal and academic voice**?
- do the **individual sections** lead on from each other logically?
- Have we **achieved our goals**?

- Build the editing stage into your **planning**
- **Print out** a hard copy of the document to read through
- **Leave a gap** (e.g., a day?) between editing rounds
- Read it from the perspective of your **target reader**
- If you are editing away from your PC/laptop, make notes on the hard copy of required improvements

- Sentence / word level

- Word Count
- Reduce
- Increase

- Paragraphs
- Topic sentences
- Structure
- Length

- Cautious Language (Hedging)

- Signposting
- Navigation
- Linking words

- Academic voice
- Yours/your group's voice
- Formality (grammar & vocabulary)
- Personal / Impersonal
- Active / Passive

Proof reading

