UE: Scientific Methods and Writing

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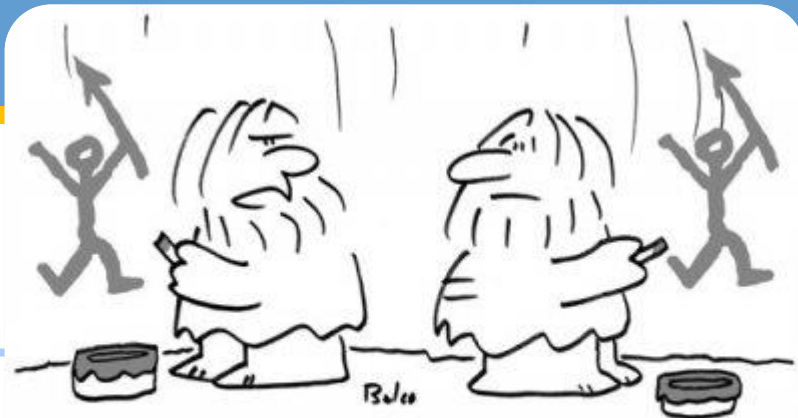
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University of Salzburg
Department of Geoinformatics – Z_GIS

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Literature work and referencing
Lesson 06

"Plagiarist!"

Why citing and referencing?

IMRaD structure

Using library sources and referencing tools

What about your research questions?

Check your essay for research question(s) …

- *Are research questions posed, addressed, answered?*
- *Are they well scaled to the scope of the study / paper?*
- *Can they be further broken down?*

Literature work and referencing

- Whatever we write about in our scientific work, it is **unlikely** that no-one ever has written about it before!

- "*Cogito ergo sum*" (French philosopher René Descartes 1637)

- "*The act of creation*" (Arthur Koestler, 1964) ➜ "Latin word cogito comes from *coagitare* = to shake together"

[Triptych]

- Three panels: **humour**, **discovery** (science), **art**

- horizontal: pattern of creativity represented in each panel, e.g. "*comic comparison, objective analogy, poetic image — the first one intended to make us laugh, the second to make us understand, the third to make us marvel.*" (A Koestler, 1964, p 27)
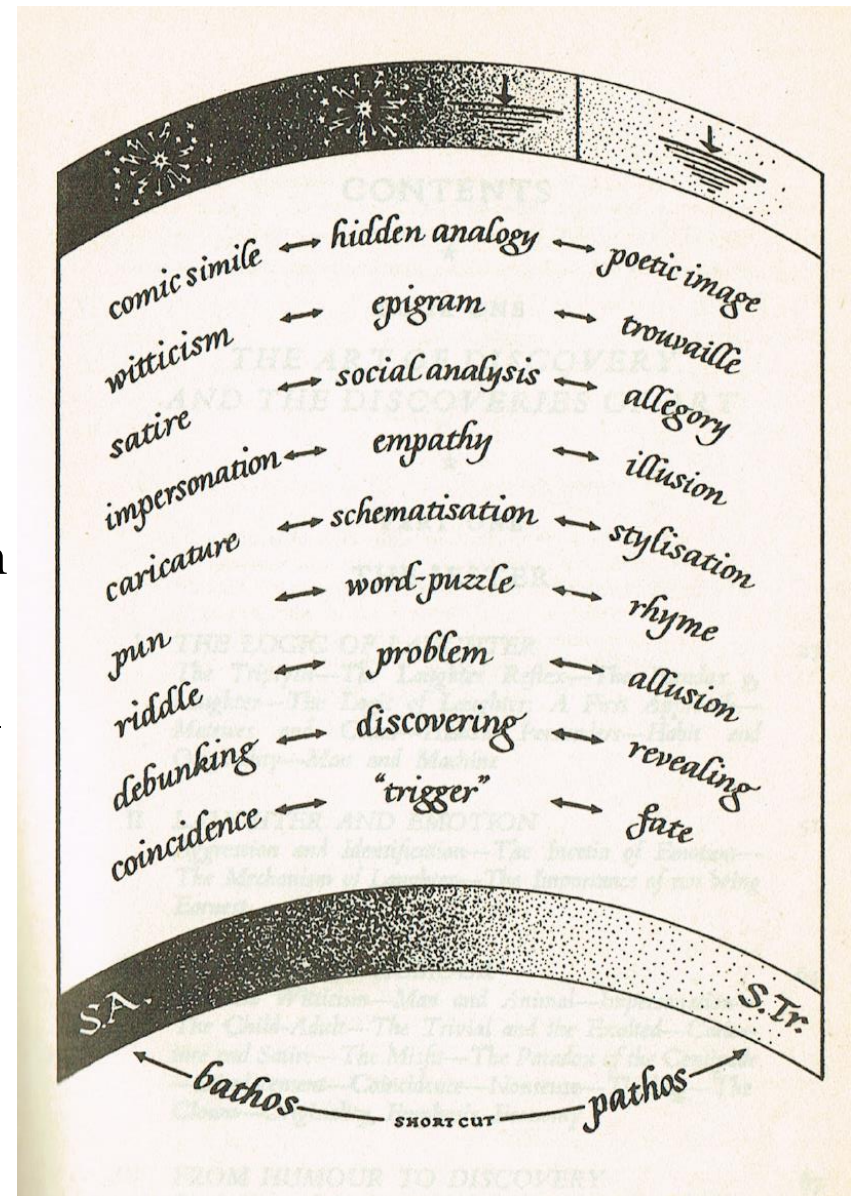
Literature work and referencing

- **Properly citing** and **referencing** to existing literature needs to be developed as a **skill**, as a kind of (scientific) ‚craftsmanship'

- **Omitting** relevant literature questions the quality of the scientific work and its author(s)

- Pretending other fellows' ideas to be my own ones (willingly or not) is a serious **flaw** sanctioned by the scientific community (**plagiarism**)

- ➔ see *PAAV_PlagiarismCheck*

487347_414587 - 20S856111: SCIENTIFIC METHODS AND WRITING STANDARDGRUPPE

A2 - Scientific essay

5% highest match

Submission ID: 80959b17-41f9-4e8c-9d6d-936455692aec

ⓘ

Word Count: 1,674   5%
Attachment ID: 2829587058

Citations (6/6)

✔ Select Sources & Resubmit

1 https://pl.b-ok.org/book/28...
2 http://www.scielo.br/scielo...
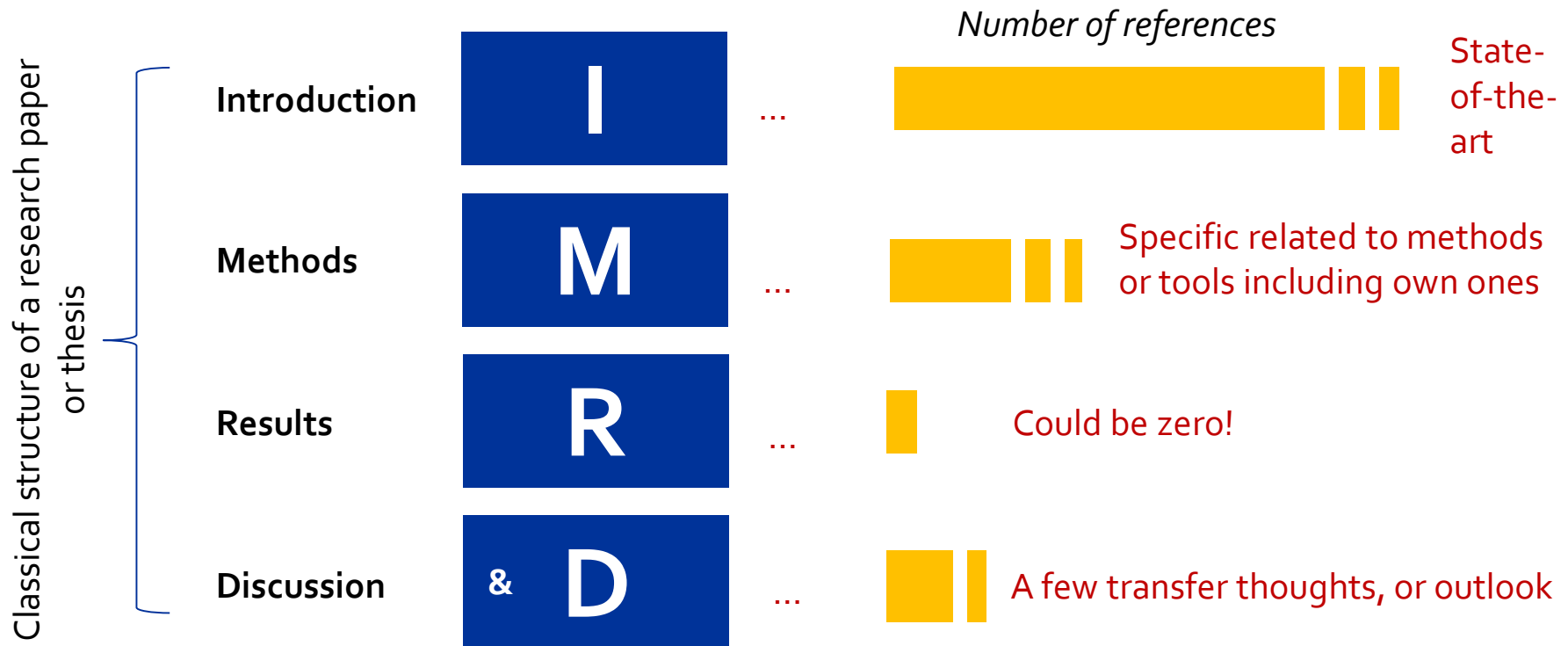3 Another student's paper

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Literature work and referencing

- Bibliography
  - Greek βίβλος *bíblos* & *gráphein* ('describe the books')
  - The (relevant) **literature body** with regard to a specific discipline or topic
  - Establishing a full bibliography is rarely the aim of a scientific study (sort of complete: when compiling a **review paper**)
- How complete is the introduction?
  - A **subset** of the existing bibliography considered **relevant** for the topic addressed (depending on my experience, seniority, accuracy, length of work)
  - Often, e.g. in project applications, we call this the '*state-of-the-art*' (SOTA)

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Literature work and **referencing**

- The **number and distribution** of references depend on the type of scientific work and the phases of a paper (IMRaD)

Classical structure of a research paper or thesis

Number of references

Introduction | **I** ... | State-of-the-art

Methods | **M** ... | Specific related to methods or tools including own ones

Results | **R** ... | Could be zero!

Discussion | **& D** ... | A few transfer thoughts, or outlook

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IMRaD structure

...With easy to find keywords!

NEW!

Tip 2 – Title and abstract: sell your paper!

Tip 3 – Introduction: work on that funnel shape!

Tip 1 – How to get started: choose the optimal environment!

Let your study design simmer for a while...

Then add some data collection and analysis...

Tip 4 – Methods: provide a cookbook with the study's ingredients!

Wow! This is a huge effect!

yes.

Tip 5 – Results: present findings without interpretation!

Really nice. But there are no limitations?

...Ehm, there are some... summed up in this separate appendix.

Tip 6 – Discussion: be frank in acknowledging limitations!

Yes, this is pie that has been eaten...

And this is pie that has not been eaten yet!

Tip 7 – Tables and figures: make them self-explanatory!

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Literature work and referencing

- Degree of originality / novelty depending on the type of scientific work

  - A review paper **summarizing** recent findings of CC impact, while with zero originality, may be of great scientific value

  - A **great** and **novel idea** may be presented in a poor scientific form when neglecting the existing literature

Seminar paper   **MSc thesis**   **PhD thesis**   **Research paper**

Increasing level of originality →

Review paper
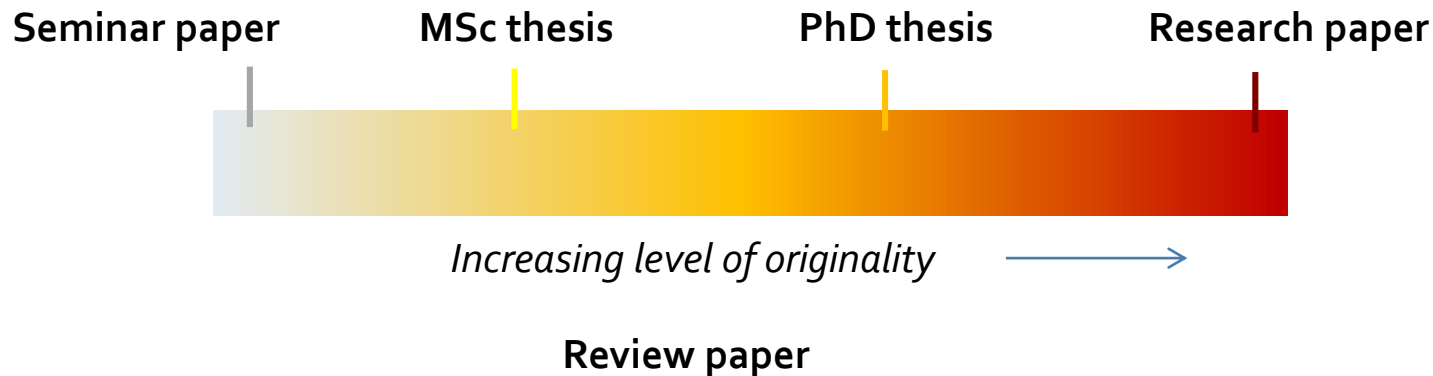
Stating the obvious …

- Economy of writing
  - Do not state the obvious, readers (and editors) will get bored
  - But: a good strategy to open a paper is stating the obvious (fetch readers where they are …)
  - Find a balance: often a narrow path
- Where the obvious ends, the assumption starts
  - "*In central Europe there are four seasons, winter, spring, summer, fall*" (stating the obvious? Depending on audience and context)
  - "*The classical central European 4-season pattern is going to change due to global warming …*"

Some reasoning errors

- Putting conclusions, assumptions or reasoning without references

  - **Conclusion**: "*In Austria we expect an expansion of red-wine cultivation areas.*"

  - **Assumption** (including reasoning): "*This is due to the fact that in parts of Austria we expect an average temperature increase of 3.5° C*".

  - Without any references such statements can only be justified by **evidence** drawn from the work itself.

  - Otherwise this is **pure speculation** and could be believed or not.

More on **reasoning** errors and fallacies… *lesson 08*

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Some more formal **errors**

- Incomplete reference list
  - Cited but not listed
  - Listed but not cited

- Wrong or inappropriate citation style
  - Depends on publication medium and local conventions
  - Formerly: learning the style properties and rules by heart and practicing
  - Nowadays: controlled by software (e.g. Endnote)
  - Whatever style you use: be consistent!

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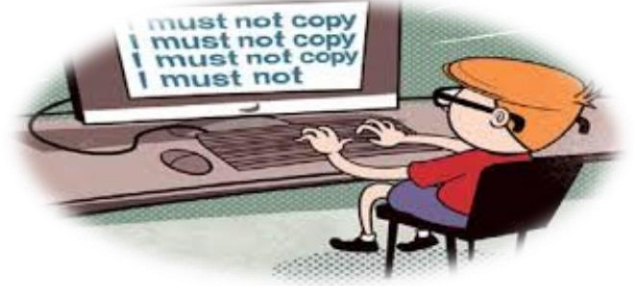
Literature sources

- Original work
  - Scientific journals
  - Conference proceedings
  - Published PhD, etc. theses

- Teaching and review material
  - Text books
  - Tutorials etc.

- Wikipedia should be only used as for general orientation …

Can I use Wikipedia as a source?
Taylor & Francis strongly discourages using Wikipedia or other similar web sites as a source for material for your book. As Wikipedia and others are publicly modifiable sites, the contents of the entries can be variable and are unreliable. You must look carefully at the credit lines or links accompanying this material. Some of it may be 3rd party material and will require permission for use from the copyright holder. It is strongly encouraged that you use more authoritative websites for your research.

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Library

- University Library UBS
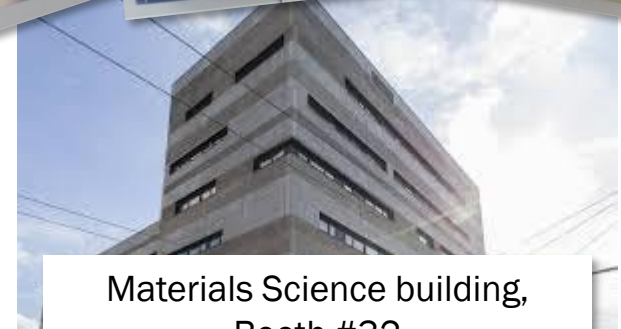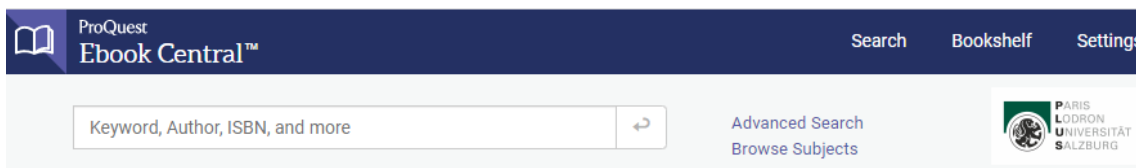- Online / virtual library

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Knowledge Space

and information hub for students, researchers, teachers at the
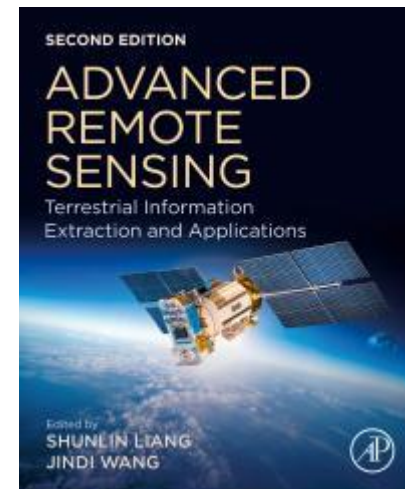University of Salzburg and all interested parties.

... more >

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WILEY

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CRC Press

Christopher D. Lloyd
Exploring Spatial Scale in Geography
WILEY Blackwell

Materials Science building,
Booth #32

SECOND EDITION
ADVANCED REMOTE SENSING
Terrestrial Information Extraction and Applications
Edited by
SHUNLIN LIANG
JINDI WANG

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Quotation marks ("..." & '...')

- … see BB comment on *literal quote*!
- Colloquialism, coinages, technical terms
  - Here I quote professional proof-reader H Merschdorf (*TALES – Translation & Academic Language Editing Services*)

*"Many common academic style guides (APA, Chicago) suggest that **single quotation marks** should only be used to indicate a **quote within a quote** and that double quotation marks should be used to indicate **colloquialisms**, **coinages**, **technical terms** in non-technical context or **slang** in formal writing – this is used to distance the writer from the used expression, signaling that it is someone else's way of putting it. Not to be confused with placing emphasis on a certain word, which can be achieved by italicising it in the first instance. So, depending on whether you want to **distance yourself** from or **emphasise** the term I would suggest either double quotation marks or italics. Either way apply in the first instance only and then write it normally in all subsequent instances."*

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Literature management

- Collect and manage your own literature sources
- Store and manage references of papers and publications
- Cite your sources in articles and generate bibliographies (lists of references)

414 References
415 1. EuropeanCommission, *COM(2016) 705 final. Space Strategy for Europe*. 2016:
416   Brussels.
417 2. Blaschke, T., et al., *Object-oriented image processing in an integrated GIS/remote*
418   *sensing environment and perspectives for environmental applications*, in
419   *Environmental information for planning, politics and the public*. 2000. p. 555-570.
420 3. Wulder, M.A. and N.C. Coops, *Make Earth observations open access: freely*
421   *available satellite imagery will improve science and environmental-monitoring*
422   *products*. Nature, 2014. **513**(7516): p. 30.
423 4. Zeil, P., et al., *The Copernicus User Uptake – Copernicus Relays and Copernicus*
424   *Academy*. GI Forum - Journal for Geographic Information Science, 2017(1): p.
425   253-259.
426 5. GEO, *The Global Earth Observation System of Systems (GEOSS) 10-Year*
427   *Implementation Plan, adopted 16 February 2005*. 2005.
428 6. GEO-CEOS, *A Quality Assurance Framework for Earth Observation, version 4.0*
429   *[Group on Earth Observations / Committee on Earth Observation Satellites]*. 2010.

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Using **reference management tools**

- **Endnote** literature management software
  - Licensed by the University of Salzburg
  - By Thompson Reuters / Clarivate (www.endnote.com)
  - See document in BB "*How to use Endnote*"
- **Mendeley**
  - By Elsevier (https://www.mendeley.com)
- **Citavi**
  - Licensed by the University
  - By Swiss Academic Software (https://www.citavi.com/en)

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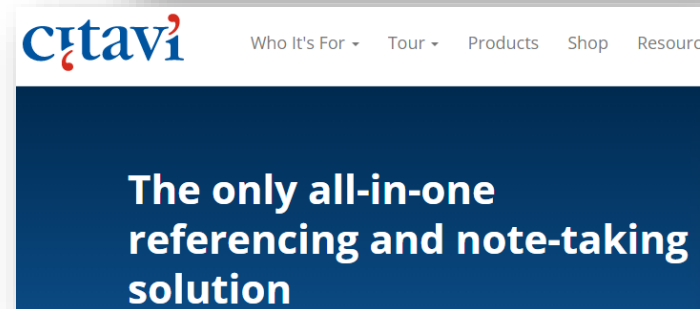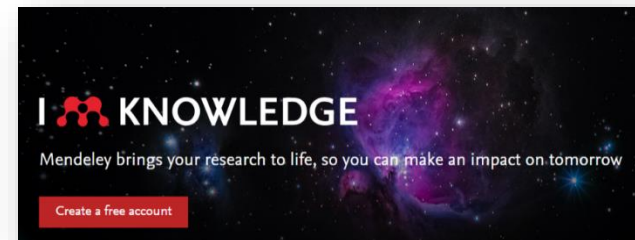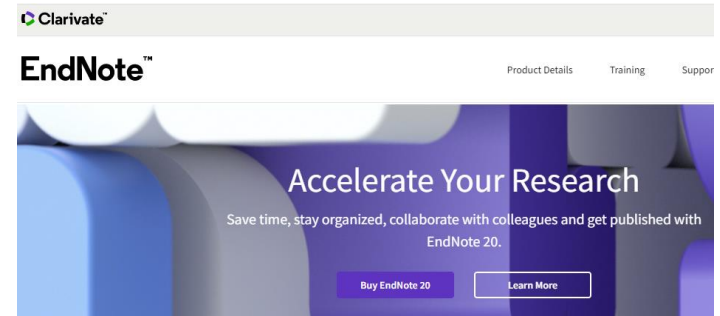
Copyright issues

- Copyright
  - Images, graphics etc. are subject to copyright licensing
  - Usually, when papers, etc. are published, the copyright is transferred from authors to publisher
  - When re-publishing copyrighted material, rights have to be granted from publisher to another
  - Check pending copyrights at www.copyright.com (online database)

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PURE

- **research information management system**
  - faculty activity reporting tool
  - keep up-to-date records about publications authored and other academic activities undertaken by an organization's researchers

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