UE: Scientific Methods and Writing

AGI - 856.111
Assoc.-Prof. Stefan LANG

Z_GIS

University of Salzburg
Interfaculty Department of Geoinformatics – Z_GIS

Style

Lesson 06

Writing style

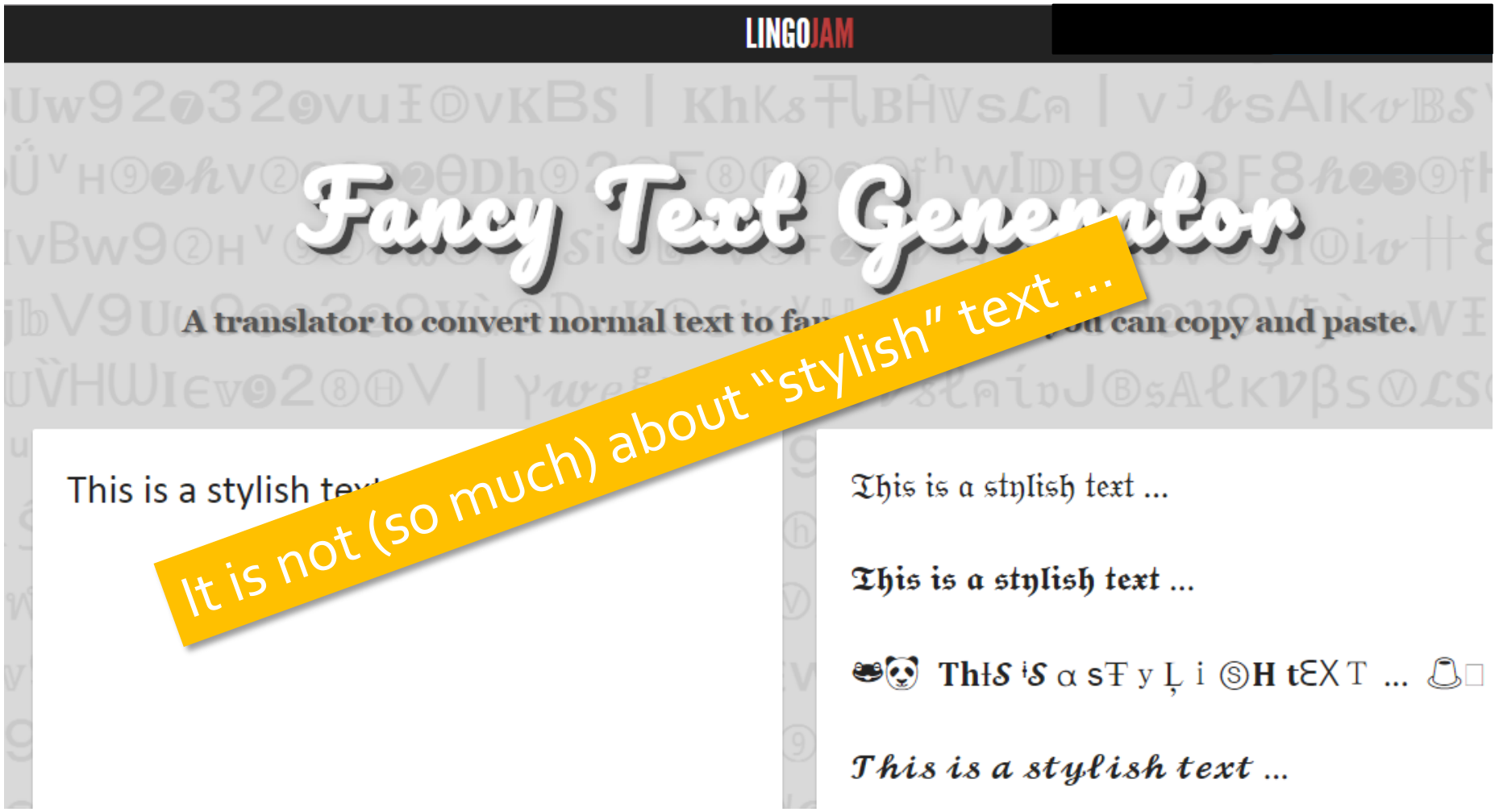
Words and expressions

Comprehensive writing

Conference preparation

Research documentation (PURE)

Writing style



ZGIS

Writing style

- It is not about the style of the formatting
  - The formatting should be as neutral as possible
  - Use 'style-guides' specified by publishing media (font size, font type etc.) or formatting style
- Personal style to be acquired by yourself and consolidated over time, hardly can be taught (read a lot and you shall find your own style …☺)
- Here: some general principles regarding style of **good practice**

Good writing is …

- Something the reader enjoys reading … it's easily understood.
- Catch phrase – something that catches your interest.
- It has a clear focus (on the research question)
- Examples help
- Short and clear – get to the point!
- Short sentences (not too many dependent clauses)
- Author builds tension, reader wants to read on.
- Sentences should flow – should form a picture.
- Should tell a story
- Simplicity is good
- Content of the text is clear by scanning

GOLIN | WISSENSCHAFTS | MANAGEMENT

Words and expressions

- Words are the 'currency' of thinking
  - The number of words at our command (in both own and foreign language) controls our thinking
    - Words can be misunderstood – or misused
  - Chose the right word / wording (not so trivial …)
    - Often a scientific or technical term is well defined, so it should be preferred over colloquial ones
    - otherwise, chose the simplest word among several options (still sounds 'scientific'*?)
  - Do not confuse words yourself …☺

- *accept* / *except*, *effect* / *affect*,
- *amount* (mass or volume) / *number* (counted), *fewer* / *less*, *majority* / *most*
- *data*** (observations) / *results* (obtained from data)
- *method* (how to perform a task) / *methodology* (study of methods)
- *while* (at the same time) / *whilst* (although)
- *since* (from that time) / *because* (for this reason)

Z GIS

Words and expressions

- We tend to think scholarly writing must be hard to understand
  - ➔ difficult to find the right balance between pure writing and style
  - Prefer short words over longer ones
  - **superfluous** words contain extra qualification
  - **Tautologies** say the same thing twice

Practical aspect: consider word / page limit in publications or proposals! (e.g. 500 words abstract, 20 pages technical description)

- *accomplish ➔ do*
- *additional ➔ extra*
- *currently ➔ now*
- *demonstrate ➔ show*
- *encounter ➔ meet*
- *exhibit ➔ show*
- *hypothesize ➔ suggest*
- *indicate ➔ sign*
- *initiate ➔ start*
- *modification ➔ change*
- *subsequently ➔ later*
- *…*

- *absolutely essential*
- *completely surrounded*
- *they are in fact*
- *few in number*
- *quite obvious*
- *real problems*
- *…*

- *(the reason for this is) because*
- *related to (each other)*
- *each (individual) person*
- *a (specific) example*
- *We are (currently in the process of)*
- *grouped (together)*

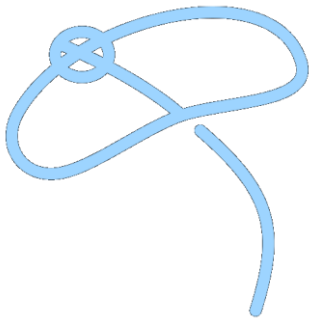
Words and expressions

- Technical terms and nomenclature
  - A kind of **coding** that simplifies communication between experts / scientists (economy of words, avoid verbosity)
  - No explanation needed (if right audience addressed, otherwise may sound like technical jargon!)
  - Often (e.g. in book chapters for didactic use), a glossary may be added, technical terms (first) serve as barriers for lay persons
  - Meanings may be introduced at first time use by "*that is*" (i.e.).
- Acronyms / abbreviations
  - Abbreviations are used to shorten words
  - Acronym is a commonly agreed short form, usually comprised by initial letters of successive words (e.g. PLUS, GIS, UNEP, but also kg, mm, …)

- *Watch out e.g. (exempli gratia) vs. i.e. (id est)*

Comprehensible writing

- Type of paper
  - **Research** paper or
  - **Review** paper (incl. seminar paper)
  - ➔ does IMRaD apply?
- General statements
  - Move from general to specific : catch reader's attention – and release it later on
  - Problem: when do I enter the sphere of hypotheses, unsupported statements etc.



"Overtime degradation and soil loss are common occurrences for agricultural landscapes"

Comprehensible writing

- Style elements
  - **Gendered** writing: do not exclude female users, researchers, authors, etc. use he/she at least
  - **Cautious** writing, cultural style - "should"
  - **Repetition**: "users and clients", "label or classify“: is it used for intensification (non-scientific), or is it a real enumeration?
  - Careful use of 'however‘: strong opposite
  - Paragraphs and indents: not every sentence is a paragraph.
  - **References**: [here:] use **names** (not number, depending on style guide) in text; do not put all names, use *et al*(iena) [not aliens ☺]
  - Usage of articles (determined/non-determined). The / a vs. none

"Well-organized process of placing labels defines rule-based annotation of map." […] "Due to the development of the automated cartography and GIS today's methods and technologies have become automated as well".

Z GIS

Comprehensible writing

- Title
  - Should be as **informative** and **comprehensive** as possible
  - Some journals require titles to summarize the results: "*Machine learning exceeds power of human brain in counting apples*."
  - Title as **questions**: gains attention, and some people 'swear' on it. Careful: it may sound provocative. Try not to address a normal scientific problem as a 'grand topic'.
  - The problem with questions: you need to answer them ☺
- Keywords:
  - Are used to enhance registration (librarian work), or searchability (in the web)
  - Keywords should not repeat words appearing in the title: instead of "*machine learning, human brain, apples*" use for example "*artificial intelligence, neural networks, routine tasks*"

Comprehensible writing

- Abstract
  - Should be **comprehensive**, i.e. also including relevant info on study site, methods, results (and discussion)
  - As rule of thumb: at least one **critical statement** per part ➔ practical approach: extract one sentence from each main chapter
  - Actual paper should not need to start with "*This paper presents…*" (may be concluding paragraph of Introduction)
  - Use past tense (but not at general statements)

Research documentation (PURE)

Stefan Lang

Assoz. Prof. Priv.-Doz. Mag. Dr.
Assoziierte(r) Professor/in, Geoinformatik – Z_GIS
https://orcid.org/0000-0003-0619-0098

E-Mail
stefan.lang@sbg.ac.at

1997 ... 2024

Übersicht | Netzwerk | Drittmittelprojekte (85) | Publikationen (206) | ...itäten (109)

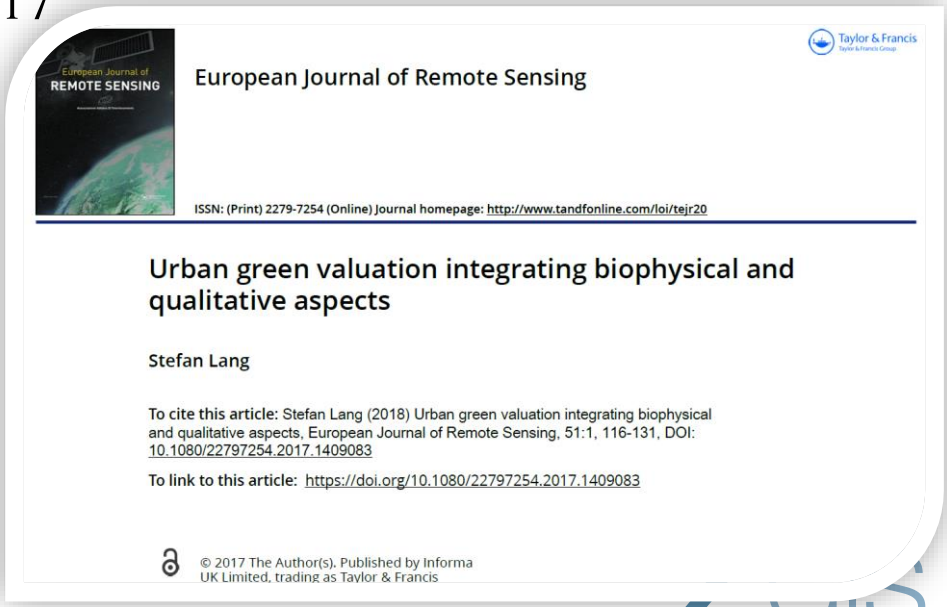
Netzwerk

Kürzliche externe Kooperation auf Landeseben... ...ndem Sie auf die Punkte klicken.

See separate presentation in BB

The long way to publish – an example

- 2015: conducted research
- Presented at EARSeL Symposium in 2016
- Call for Papers in Special Issue
  - Deadline announced Oct, then postponed Dec 2016
  - Publisher changed, deadline shifted to March 2017
  - Reviewed until summer 2017
  - Re-worked until Oct 2017
  - Publishing process
- Publication
  - Online: 12 Dec 2017
  - In print: early 2018



Mini-Conference

"Space matters"

19 Jan 2021 [10.00 – 12.00]

Assignment 4
Final paper (scientific essay)
Including references and figure(s)

Assignment 5
Short presentation
3-4 slides
+ title slide + content slide
(brief summary, as bullet points or graphical abstract)

Moderator
- Introduces presenter and title of talk
- Keeps time (5 min)
- Stimulates discussion (asks at least one question)

Presenter
- Will go into topic right away
- Does not need to repeat own name and title
- *(changes role to moderator after presentation)*

Best Paper Award!

Z GIS