Translation

Translation and Interpreting Studies, Translation Quality and MT

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VL Perspektiven der Linguistik
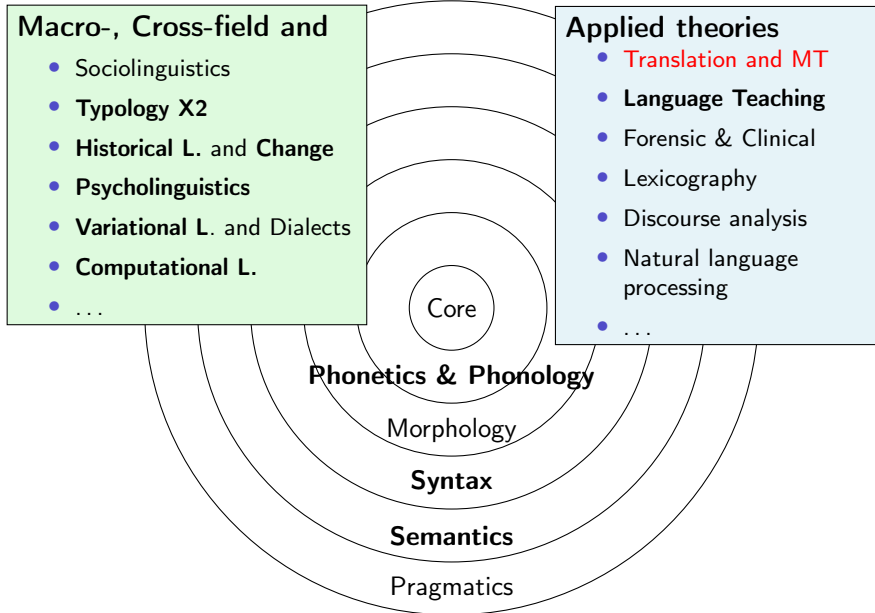*BA Language Science*
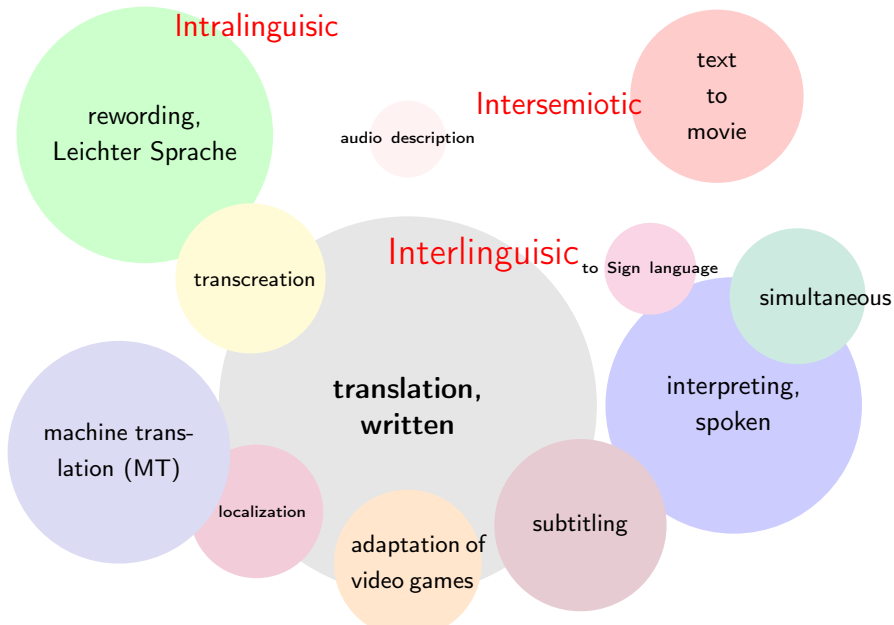
February 04, 2025

Outline

Linguistics and Translation

Macro-, Cross-field and
- Sociolinguistics
- **Typology X2**
- **Historical L**. and **Change**
- **Psycholinguistics**
- **Variational L**. and Dialects
- **Computational L**.
- . . .

Applied theories
- Translation and MT
- **Language Teaching**
- Forensic & Clinical
- Lexicography
- Discourse analysis
- Natural language processing
- . . .

Core

Phonetics & Phonology

Morphology

Syntax

Semantics

Pragmatics

Prototypical translation and other types of rendering

Intralinguisic

rewording, Leichter Sprache

audio description

Intersemiotic

text to movie

transcreation

Interlinguisic

to Sign language

simultaneous

machine translation (MT)

translation, written

interpreting, spoken

localization

adaptation of video games

subtitling

What is translation, really?

"an interpretation of verbal signs by means of some other language"

(Jakobson 1959/2012: 127)

Source text (ST)   ⟶   Target text (TT)
in source language (SL)   in target language (TL)
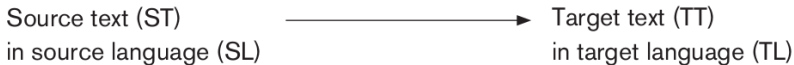
"Translation is the communication of the meaning of a source-language text by means of an equivalent target-language text"

(Wikipedia)

What must be kept, and what can change?

Figurative language and set phrases

- Maybe there is some chemistry between us that doesn't mix.
- The suit is on its way out, and a good thing, too. -> *Der Anzug ist auf dem Rückzug, und eine gute Sache auch.

Implications

- It's a good horse that never stumbles. -> *Es ist ein gutes Pferd, das nie stolpert.
- She had to keep the captain happy, while his wife was away.

Communicative conventions

- (talking to a 6-y.o) What can you see in this picture? -> ?? Was ist da auf dem Bild?

Cultural references

- He really likes his tea, but he's no Yorkshireman.
- It's late I'll go up.

Current (national, local) social and political events

„Ich bin die Brandmauer", sagen die Teilnehmer und halten sich an den Händen.

Unique genres: A limerick

There once was a man from Peru,
Who dreamt he was eating his shoe.
He awoke with a fright,
In the middle of the night,
To find that his dream had come true!

Process, product and socio-cultural phenomenon

🤔 How is translation carried out?

- What makes translation difficult?
- How do translators handle challenges e.g. untranslatable words and concepts?

🤔 Can everything be translated?

- Traduttore, traditore? Is translation possible?
- Which aspects of text content have to be carried over in the other language?
- Can literature ever be translated without losing its essence?

🤔 Are translations different from non-translations?

- What are the quality criteria in translation?
- Is a "perfect" translation possible?

Interpreting studies

Types of interpreting:

- Simultaneous (conference interpreting, voice-ear span, translation booth),
- Consecutive (note-taking systems),
- Community Interpreting (everyday public service interactions: healthcare, government, education),
- Legal (formal legal settings: courts, police),
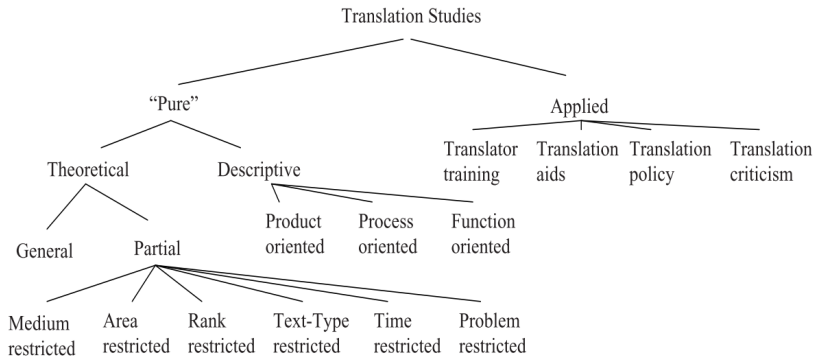- Sight translation

🤔 What elements of the communicative situation create most cognitive load in interpreting?

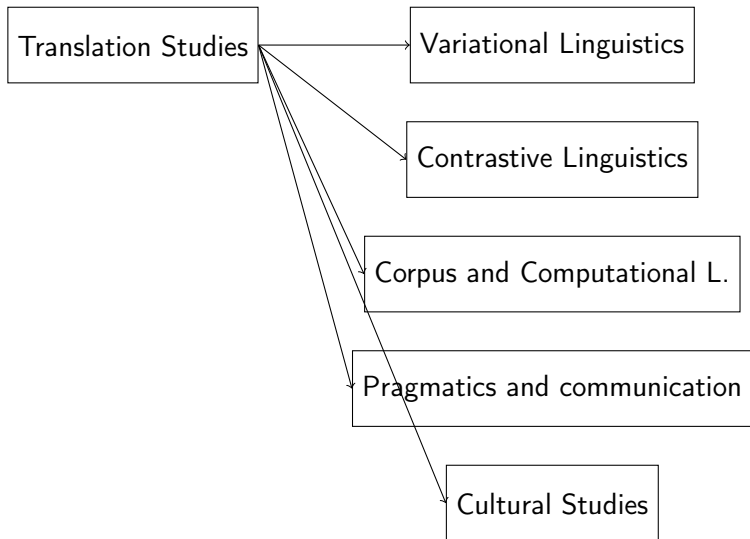🤔 How do high-pressure settings affect linguistic choice in interpreting?

Translation Studies (TS) as a field of study

TS emerged as an academic discipline in the 1950s.

The map of Translation Studies by Holmes (1988) [13]

Most related disciplines

Equivalence: translation as a linguistic exercise

Translation is the same in the other language.
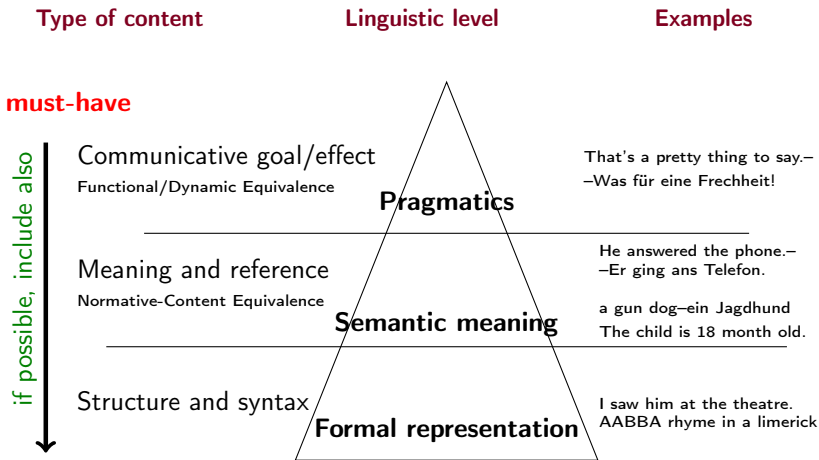It would be easy if this was possible.

Linguistics-oriented theories use equivalence to explain 'sameness'.

> Equivalence refers to the degree to which a translated text maintains the meaning, function, and effect of the original text in the target language.
> Ideally, translation conveys the same information, intent, and communicative impact as the source text through adapting to linguistic and cultural differences.

Content Hierarchy in Translation

Disclaimer: there is a lot of variations of this structure in the literature

Type of content	Linguistic level	Examples

must-have

if possible, include also

Communicative goal/effect
Functional/Dynamic Equivalence

Pragmatics

That's a pretty thing to say.—
—Was für eine Frechheit!

Meaning and reference
Normative-Content Equivalence

Semantic meaning

He answered the phone.—
—Er ging ans Telefon.

a gun dog—ein Jagdhund
The child is 18 month old.

Structure and syntax

Formal representation

I saw him at the theatre.
AABBA rhyme in a limerick

Alternative approach: discrete type

Douglas Robinson's types of observed equivalence (1997):

literal: word-for-word translation; emphasizes formal
similarities often to the detriment of higher levels,

foreignization: makes it obvious that the text is a translation by
copying the lexical level,

fluent: reads as if originally written in the target language,

summary: conveys only the key points of the source,

commentary: explicative translation; explains implicit or ambiguous
elements in the original,

adaptation: free/liberal translation; reshapes the text for a
different audience or purpose.

See also Werner Koller's types (1982).

Development of equivalence theories

Jakov Retzker, 1950: The theory of regular transformations.
The translator's goal: a comprehensive transmission of content using adequate means.

↓

Eugene Nida, 1964: Dynamic vs. formal equivalence.
The message should be understood and natural in the TL/culture

↓

Gert Jäger (1982) Dynamic vs functional equivalence
Actual (predicted) effect of the text or text function is translated?

↓

SKOPOS theory: Hans Vermeer, Katharina Reiß (1984), Kristiane Nord (1991) A translation is a secondary offer of information, imitating a primary offer of information. **ST is dethroned**. Loyalty to communicators and coherence.

Translation Techniques

solution types, regular transformations, shifts

Vinay and Darbelnet (1958)

- Borrowing and Calque
- Literal Translation
- Transposition
- Modulation
- Reformulation
- Adaptation

- Me blingee beer. Now you pey.
- conservationist
- Chingachgook, the Great Snake
- sincere friend vs wine

Loh (1958)

- Transliteration
- Semantic Translation
- Coinage of New Characters
- Omission
- Amplification
- Repetition
- Conversion
- Inversion
- Negation

Traditional translation theories are often hypothetical and lack empirical backing.

They use a limited number of hand-picked examples to explain the proposed concepts:

- equivalence
- correspondence
- transformations / shifts
- unit of translation
- translation model
- text types in translation
- translation error

They also often have prescriptive approach and are focused on ST-TT relations.

Corpus-based Translation Studies (CBTS)

Baker (1993)[3]: translations as texts in their own right, not 'deformation' of sources (Berman, 1985)[6]

Key Aspects of CBTS

- Empirical approach and real-world language data,
- Comparative and contrastive analysis,
- Quantitative & qualitative methods,
- Uncovering trends in translational behaviour

CBTS seeks to explain linguistic choices in translations vs. non-translations by language-pair internal or external factors.

Translated language as the object of study

Translationese :

> properties that make translations statistically different from comparable non-translations[11]

- describes and explains linguistic specificity of translations, 'the property of being a translation', which makes translated language a variety of the target language (TL),
- is revealed through comparison of translations and TL non-translations in the same register.

Can you recognise a translation when you see one?

Are these translated or original sentences in English?

> - To the businessman it is necessary in polite form to find out, on what basis check is made.
> - She stood in the doorway, with a baby in her hands.

Assignment Task 1: detect translation direction in EN↔DE

| 15 | 1_11 | I am very tired and must go to bed now, otherwise I will be too much tired tomorrow. | Ich bin sehr müde und muss jetzt ins Bett gehen, sonst werde ich morgen zu müde sein. | <EMPTY> |

Task1_direction   Task2_quality   Task3_human_vs_machine

Find ▾   Find All ☐ Formatted Display ☐ Match Case

Can you tell apart human and machine translation?

> source The interactions of these different domains give rise to new differences, which interact further, and thus the whole pattern of development may evolve from one initial asymmetry.
>
> target1 Die Wechselwirkungen dieser verschiedenen Bereiche erzeugen neue Unterschiede, die weiter miteinander interagieren, und damit kann sich das gesamte Entwicklungsplatz von einer ersten Asymmetrie entwickeln.
>
> target2 Aus der Wechselwirkung zwischen diesen unterschiedlichen Bereichen entstehen neue Unterschiede, die sich wiederum gegenseitig beeinflussen, so daß schließlich der gesamte Entwicklungsablauf aus einer einzigen Ungleichheit am Anfang herruehrt.

T2 is human.

Assignment Task3. Human or Machine translation (DE→EN)? Read a short passage and decide which translation was generated automatically.
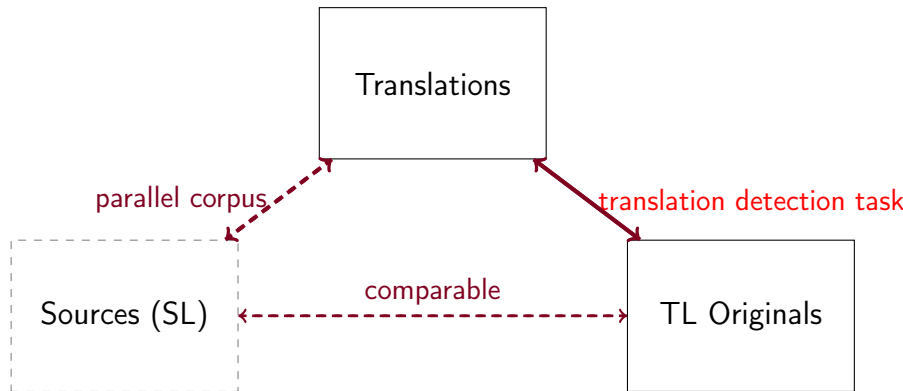
Translationese studies

Translation**ese** studies aims to capture and explain the specificity of translations.

The usual suspects (aka translationese-inducing factors):

- translation direction (distance between SL and TL): e.g. EN→DE≠DE→EN
- register: e.g. translationese in fiction vs. academic writing
- level of expertise/experience: e.g. professional vs student, professional vs. layman
- mode: translation vs interpreting

Typical text resources for a translationese study

A very popular source of data are professional translations from European Parliament (EuroParl).

How is translationese revealed experimentally?

	A	B	C	D	E	F	G	H	I
1	doc_id	addit	adp	advers	attrib	width	caus	cconj	label
2	B_2010_3_9.txt	0.024	0.095	0.006	2.494	11.339	0.012	0.042	original
3	B_2010_3_10.txt	0.167	0.067	0	2.733	14.067	0	0.036	translated
4	B_2010_3_5.txt	0.077	0.107	0	2.681	12.044	0.022	0.022	translated
5	B_2010_3_2.txt	0.115	0.121	0	2.346	10.827	0.019	0.044	translated
6	B_2010_3_1.txt	0.02	0.127	0.0392	2.471	12.373	0.098	0.021	original
7	B_2010_3_3.txt	0.133	0.091	0.0667	1.781	11.067	0.038	0.022	original

1. prepare textual data,
2. extract frequency of potential translationese indicators,
3. run statistical tests to compare 'original' and 'translated' category or
4. use a machine learning algorithm (usually SVM) to predict whether a text is 'translated' or not,
5. interpret the results.

# Interpretable translationese indicators are best

Desired properties:
- well-motivated (by contrastive studies, variational/register analysis, prior TS);
- content-independent;
- reasonably frequent;
- reliably extractable;
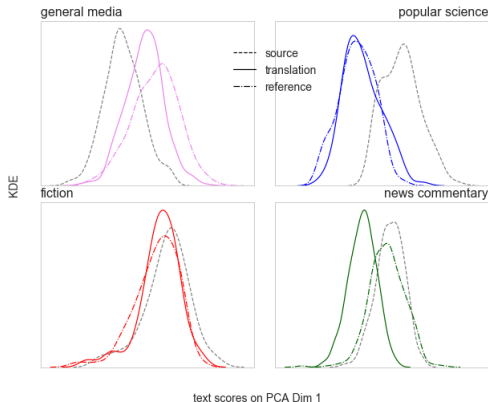- language-independent or shared by SL and TL

32 features from Vered Volansky (2015)[27] are used as a benchmark.

Examples of features: frequencies of connectives, pronouns, passives, relative clauses + textual metrics such as type-to-token ratio.

Visualisations
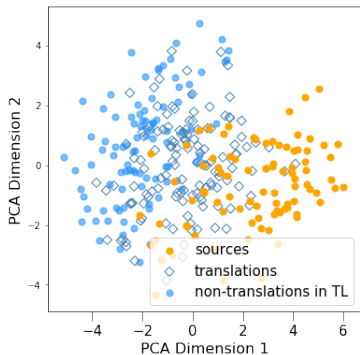
The specificity of EN-to-DE translations captured by the shining-through indicators

Distribution of texts by category across registers (EN-to-RU)

Established translational tendencies[9]

S-universals
*** how the translators process the source language (SL) ***

1. interference/transfer, 'shining-through' effect[26]
   translations follow ST rather than TL patterns, e.g frequency calques, strange strings: That doesn't makes sense.→ Es macht kein Sinn.

2. explicitation
   spelling things out rather than leave them implicit
   ▶ more frequent use of conjunctions, connectives,
   ▶ more re-phrasing, comments, elaboration in brackets
   ▶ ST non-finite clauses > TT finite clauses
   ▶ ST pro-forms (this, they) and ST ellipsis > TT full NPs

3. levelling-out (aka Standardisation/Convergence)
   higher level of homogeneity of translations against sources;

4. lengthening

T-universals
*** how the translators process the TL ***

1. simplification

   *lexical (lower TTR=less varied voc, lower lexical density),
   syntactic (higher readability scores), stylistic (less figurative)*

2. over-normalisation

   *"tendency to exaggerate features of the target language and to
   conform to its typical patterns"*[4]

3. unique items hypothesis

   TL specific items are underrepresented (e.g German
   passive-like constructions: sein+zu, lassen+sich)

NB! Matching trends and specific translationese indicators is tricky.

Are translations easier to read?

Yes, they are easier than their sources in the SL.

No, they are more difficult than comparable originals in the TL[17].

What's a good translation?

How good is this translation? General criteria:

Adequacy	usefulness, fitness for communicative purpose, acceptability[21;14]
Accuracy	semantic similarity: *How much of the meaning expressed in the source is also expressed in the target*
Fluency	readability, compliance with TL norms from *Flawless English* to *Incomprehensible*

Undifferentiated approach:

How much do you agree that the translation adequately expresses the meaning of the source?

Quality labels/scores: Human assessment (of HT or MT)

(1) Real-life quality judgments:
  education, certification, industrial quality control
(2) Experimental setups

Assessment purpose: quantitative or diagnostic

- summative vs formative
- holistic vs analytical

Methods:

1. direct assessment,
2. (analytical) rubrics,
3. error annotation.

+ in MT: post-editing time/effort (not discussed)

Granularity: document-, sentence-, word-level

Assessment method 1: Direct Assessments (DA)

To how much of an extent is the target text unit an accurate rendition of the meaning of the source unit?

1	2	3	4	5
Completely Inaccurate	Mostly Inaccurate	Somewhat Accurate	Mostly Accurate	Completely Accurate

from Moorkens (2018)[20]

Read the text below and rate it by how much you agree that:

The text is fluent English.

With Facebook, it's difficult to know how many of a user profile information is true.

strongly disagree ——————————————————— strongly agree

from Graham (2015)[12]

Assessment method 2: Rubrics

Diploma in Translation (DipTrans, UK certification)

1. comprehension, accuracy and register (max 50);
2. grammar (morphology, syntax, etc.), cohesion, coherence and organisation of work (max 35);
3. technical aspects: punctuation, spelling, accentuation, names, dates, figures, etc (max 15).

BANDS: distinction, merit, pass, fail with numeric marks

American Translators Association (ATA)

1. usefulness/transfer (max 35);
2. terminology/style (max 25);
3. idiomatic writing (max 25)
4. target mechanics (max 15)

BANDS: standard, strong, acceptable, deficient and minimal (Williams, 2013; Yuan, 2018) [29;30]

Assessment method 3: harmonised DQF-MQM error taxonomy[1]

a standard but adjustable way to categorise and measure translation quality

Top-level categories (with some subcategories)

- accuracy (addition/omission, improper exact TM match, mistranslation, untranslated)
- fluency (grammar, spelling, character encoding)
- locale convention (address/currency format, shortcut key)
- style (awkward, company style, unidiomatic)
- terminology (inconsistent with termbase)
- verity (culture-specific references)

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[1]https://www.qt21.eu/wp-content/uploads/2015/11/QT21-D3-1.pdf

Quality-related NLP tasks in MT

Quality Evaluation

measure distance from the candidate translation to another translation (aka reference), usually a human translation

Most used metrics:

- BLEU family
- HTER
- COMET[23]
- ...

in HT this means punishing creativity and variety

Quality Estimation

devise a way (supervised or unsupervised) to predict quality labels without references

Approach:

- feature-engineering (QuEst++[25])
- using embeddings (deepQuest[15], TransQuest[22])

Granularity:

- sentence-level
- word-level (predicting errors)

Humans vs machines in translation

How human translation (HT) differs from MT:

1. HT is essentially document-level $\rightarrow$
   – sentence-level representations less adequate
2. HT is more varied, less literal $\rightarrow$
   – reference-based approaches are unfair,
   – higher granularity of quality analysis is required,
3. in HT publishable quality is expected
4. Research-wise: lack of reliable quality labels / available datasets $\rightarrow$
   – same as in MT: k 0.2-0.4 (Graham, 2015),
5. HT allows no direct access to internal processes $\rightarrow$
   – no 'glassbox' features available for MT,

6. HT and SOTA NMT might need focus on different aspects of quality: fluency and accuracy respectively

Is translationese indicative of quality?

Yes:
more translated, lower quality

- the link is suggested or explored in previous work: for HT [24;10;19], for MT [1;2],

- professionals are less deviant than students (based on univariate analysis) [18]:

  learner   professional   non-translations
  x——————————x————————————x
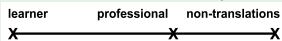
- Hm, translationese is ONLY about fluency?!but annotators cannot distinguish the three aspects of quality [7],

- and quality in HT is mostly about fluency [8]

No:
it is a subtle inherent property

- if a translation displays no translationese: is it an faithful rendition? Is it a transcreation or adaptation?

- Wein (2023) [28]: human annotators (unlike machines!) cannot reliably recognise translations (also see Baroni (2006) [5].

- Jimenez-Crespo (2023) [16]: pejorative implications of translationese are unethical towards translators.

Research subcorpora

1. subsets from *Russian Learner Translator corpus* of various sizes by type of quality annotation
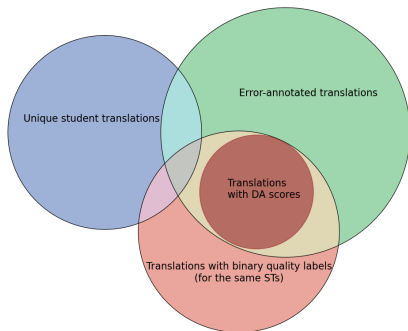
2. comparable professional translations: 404 parallel docs, 384 K words (BBC Russian Service, InoSMi, RNC);

3. comparable non-translations: 497 docs, 523 K words (RNC)

Results for HTQE on translationese indicators using SVM

*HTQE = human translation quality estimation

All results are at document level on the best-performing features.

Features reliably detect translations (i.e. capture translationese):
F1 = 90.2% (professional), 88.96% (students)

But struggle with capturing translation quality (four types of quality labels/scores were used).

Binary labels, SVM, F1-score

- best-worst: 68.9%
- students-prof: 73.3%

Continuous scores, SVR, Pearson *r*
error-annotation scores: 0.43
direct assessment: 0.23

Summary and Key Takeaways

1. TS is related to Linguistics as an applied field that uses linguistic concepts.
2. Traditional 'pure' TS explains what is expected of translation and how is it carried out (equivalence, models, shifts).
3. Corpus-based TS explores the properties of translated language.
4. Translations are identifiably different for non-translations in the TL. Translated language is a subsystem of the TL.
5. Pragmatic adequacy (functional equivalence) is the most important type of content. Translation should be representative of their sources in the target culture.
6. Humans and machines struggle with different things in translation. The gap is rapidly closing!
7. Machines pick up translationese better than humans.
8. The relevance of translationese for quality estimation is low (especially at sentence level).

Thank you!

Questions?

Assignment Task2:

Assess the quality of translation.

4 - Perfect: I cannot think of a better translation.

3 - Acceptable: the essential content is rendered, but the wording is a bit suboptimal.

2 - Minor edits: some content is missing, the wording is noticeably off, some editing is required to put it right.

1 - Major faults: the translation is confusing, misleading, nonsensical or can only be understood given the source.

Textbooks on Translation Studies

Theories and history: Munday, J., Pinto, S. R., & Blakesley, J. (2022). Introducing translation studies: Theories and applications. Routledge. `https://didatticaweb.uniroma2.it/it/files/scarica/modulo/183709M299-Lingua-Inglese-3-A/72919-Pagine-da-studiare-Munday/0`

Practical aspects: Baker, M. (2018). In other words: A coursebook on translation. Routledge. `https://archive.org/details/InOtherWordsByMonaBaker`

Reader: Venuti, L. (2000). The translation studies reader. `https://files.znu.edu.ua/files/Bibliobooks/Zapolskikh/0041049.pdf`

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