

Translating and the Computer
Conference (TC41)
London 22st November 2019

**Machine Translation vs. Human Translation:
An Analysis of the Use and Impact of Pre-
Editing in a Variety of Text Types**

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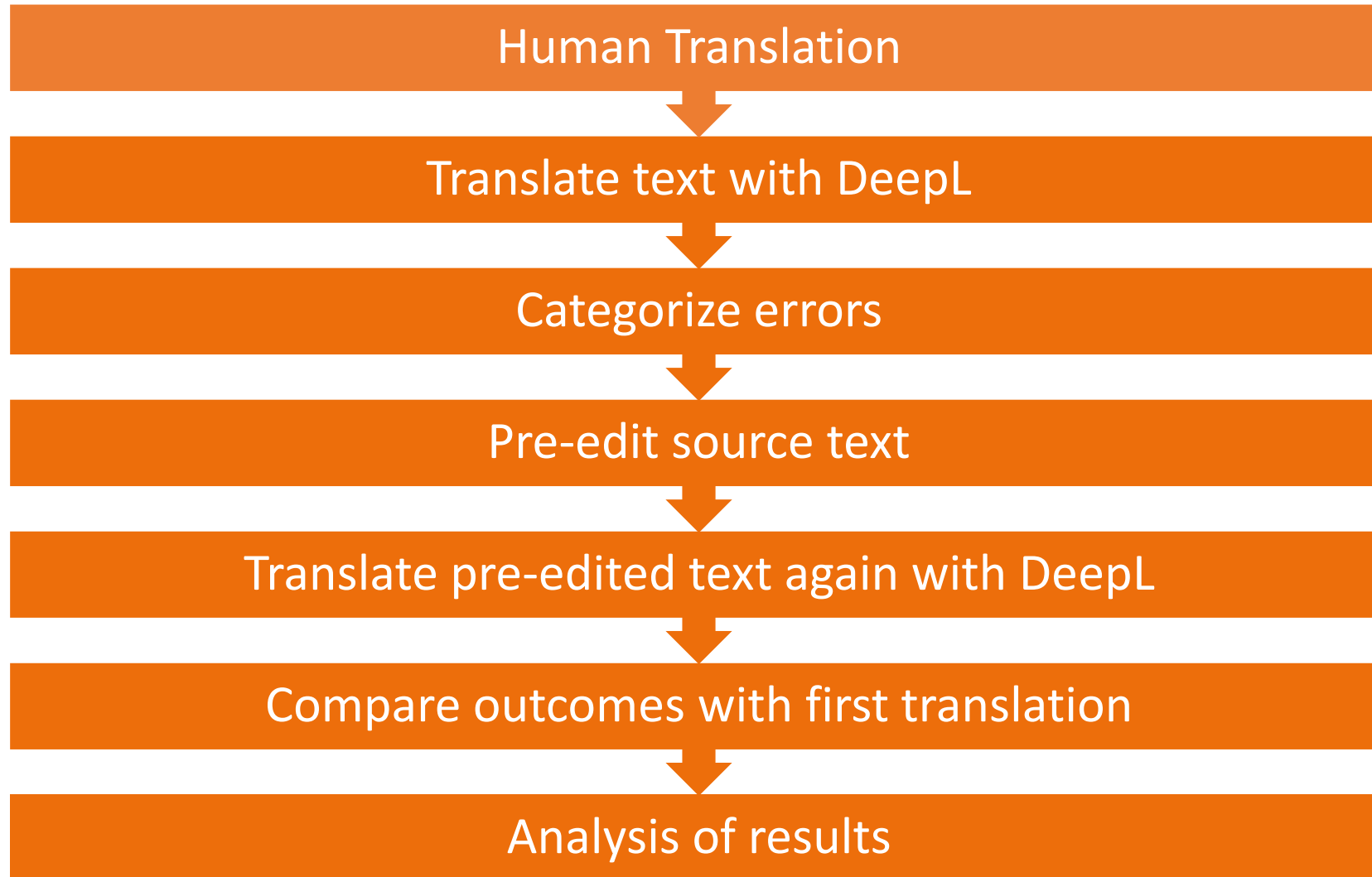
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Pre-editing in academical curricula

- Relevance of MT for professional translation
- Caution and scepticism among translation students
- Surprisingly good results that changed misconception of MT
- Appreciate quality of source text and reflection on errors
- Language pairs comparison
- Workflow in course
- Corpus
- Text types
- Error evaluation list
- Analysis and conclusion

Workflow of this study



Text Types

- Newspaper articles

Vitamin D supplements don't help bone health, major study concludes

<https://www.theguardian.com/society/2018/oct/04/vitamin-d-supplements-dont-help-bone-health-major-study-concludes>

Rescuing Sea Turtles From Fishermen's Nets

<https://www.nytimes.com/2018/10/15/science/sea-turtles-endangered-fishing.html>

- Medical/scientific articles

Exposure to Environmental Microorganisms and Childhood Asthma

<https://www.ncbi.nlm.nih.gov/pubmed/21345099>

Modern Industrial Foods and Their Effects on the Human Body

<https://www.naturalmedicinejournal.com/print/1010>

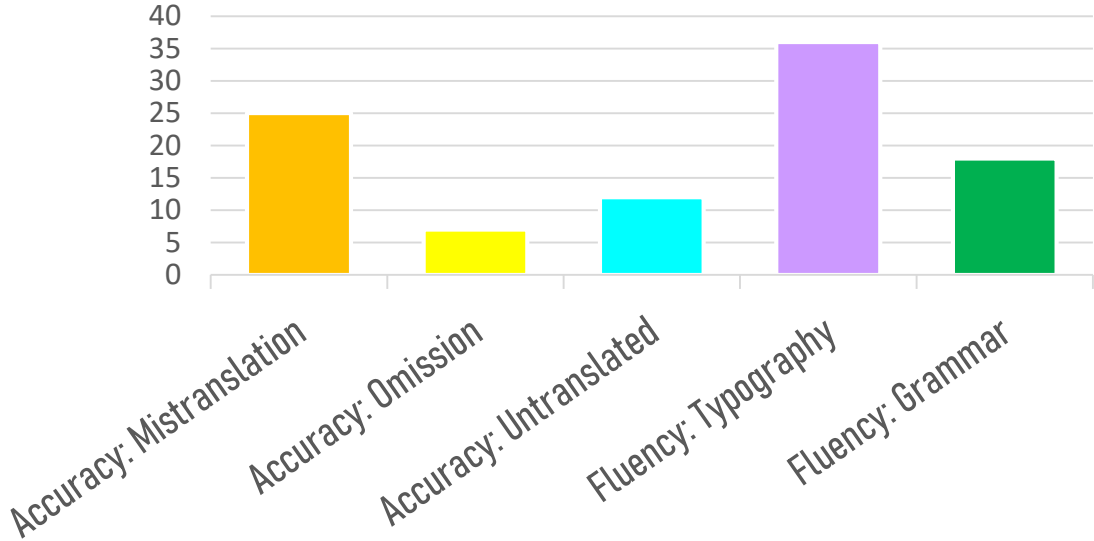
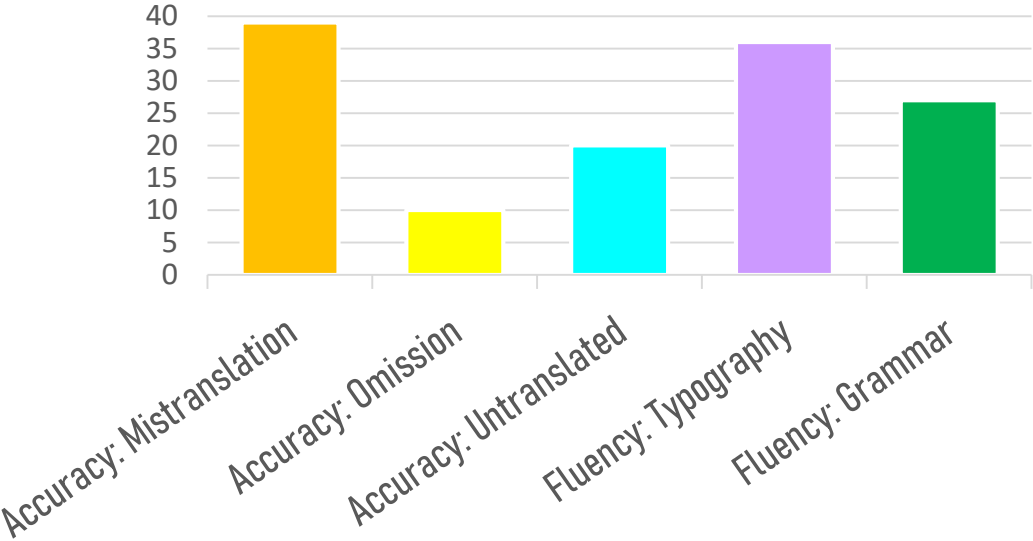
Categorisation of errors

- Dynamic Quality Framework (DQF) has been developed by TAUS for the human evaluation of translation quality. Errors are annotated according to five categories (accuracy, country standards, language, style and terminology).
- MQM Annotation Decision Tree for error categorisation
- Our categorisation after a first analysis of MT target text:
 - **Accuracy: Omission**
 - **Accuracy: Mistranslation**
 - **Accuracy: Untranslated**
 - **Fluency: Typography**
 - **Fluency: Grammar/Part of speech**

English>German Results

Errors before PE

Errors after PE



- Accuracy: Mistranslation
- Accuracy: Omission
- Accuracy: Untranslated
- Fluency: Typography
- Fluency: Grammar

- Accuracy: Mistranslation
- Accuracy: Omission
- Accuracy: Untranslated
- Fluency: Typography
- Fluency: Grammar

EN>GE Examples of successful PE

Source text (ST)	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
<p>It may take as many as 174 days for half of the herbicide to break down to its still-toxic degradation by product aminomethylphosphonic acid (AMPA).</p>	<p>Es kann bis zu 174 Tage dauern, bis die Hälfte des Herbizids durch das Produkt Aminomethylphosphonsäure (AMPA) bis zu seinem noch toxischen Abbau abgebaut ist.</p>	<p>It may take as many as 174 days for half of the herbicide to break down to its still-toxic degradation by-product aminomethylphosphonic acid (AMPA).</p>	<p>Es kann bis zu 174 Tage dauern, bis die Hälfte des Herbizids zu seinem noch giftigen Abbau- nebenprodukt Aminomethylphosphonsäure (AMPA) abgebaut ist.</p>

→ Missing hyphen in source text

EN>GE Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
Vitamin D supplements don't help bone health, major study concludes	Vitamin D-Ergänzungen helfen nicht der Knochengesundheit, große Studie kommt zu dem Schluss	Major study concludes that Vitamin D food supplements don't help bone health	Große Studie kommt zu dem Schluss, dass Vitamin D-Nahrungsergänzungsmittel nicht zur Knochengesundheit beitragen

→ Add the connective ***that***

EN>GE Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
Thu 4 Oct 2018 Last modified on Fri 5 Oct 2018	Thu 4 Oct 2018 Letzte Änderung am Fri 5 Oct 2018	Thursday 4 October 2018 Last modified on Friday 5 October 2018	Donnerstag 4. Oktober 2018 Letzte Änderung am Freitag 5. Oktober 2018
According to the SACN, there have been suggestions that [...]	Laut SACN gibt es Hinweise darauf, dass [...]	According to the scientific advisory committee on nutrition , there have been suggestions that [...]	Nach Angaben des wissenschaftlichen Beirats für Ernährung gibt es Hinweise darauf, dass [...]

→ Spell out acronyms and abbreviations

EN>GE Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
<p>The new meta-analysis is published in the Lancet Diabetes and Endocrinology journal and led by the longstanding experts on vitamin D Profs Mark Bolland and Andrew Grey [...]</p>	<p>Die neue Meta-Analyse wird in der Zeitschrift Lancet Diabetes and Endocrinology veröffentlicht und von den langjährigen Experten für Vitamin D-Profes Mark Bolland und Andrew Grey [...]</p>	<p>The new meta-analysis is published in the Lancet Diabetes and Endocrinology journal and led by the longstanding experts on vitamin D, Professors Mark Bolland and Andrew Grey [...]</p>	<p>Die neue Meta-Analyse wird in der Zeitschrift Lancet Diabetes and Endocrinology veröffentlicht und von den langjährigen Vitamin-D-Experten, den Professoren Mark Bolland und Andrew Grey [...]</p>

EN>GE Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
Biggest ever review of evidence recommends the government ditch its advice to take them throughout winter	Die größte jemals durchgeführte Überprüfung der Beweise empfiehlt der Regierung, ihren Rat nicht zu befolgen, um sie den ganzen Winter über zu befolgen	Biggest ever review of evidence recommends the government ditch its advice to take the supplements throughout winter	Die größte jemals durchgeführte Überprüfung der Beweise empfiehlt, dass die Regierung ihren Rat, die Nahrungsergänzungsmittel den ganzen Winter über einzunehmen, aufgibt

→ Replace unclear pronoun referents (e.g. *them*)

EN>GE Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
An obscene rainbow of plastic debris washes up on Kenya's beaches, drifting there from as far away as Madagascar and Malaysia according to labels still legible on items.	Ein obszöner Regenbogen aus Plastikmüll wäscht sich an den kenianischen Stränden und treibt von dort bis nach Madagaskar und Malaysia [...]	An obscene rainbow of plastic debris washes up on Kenya's beaches, which drifts there from as far away as Madagascar[...]	Ein obszöner Regenbogen aus Plastikmüll wäscht sich an den kenianischen Stränden, der von Madagaskar und Malaysia [...] dorthin treibt.

→ Eliminate unnecessary -ING phrases

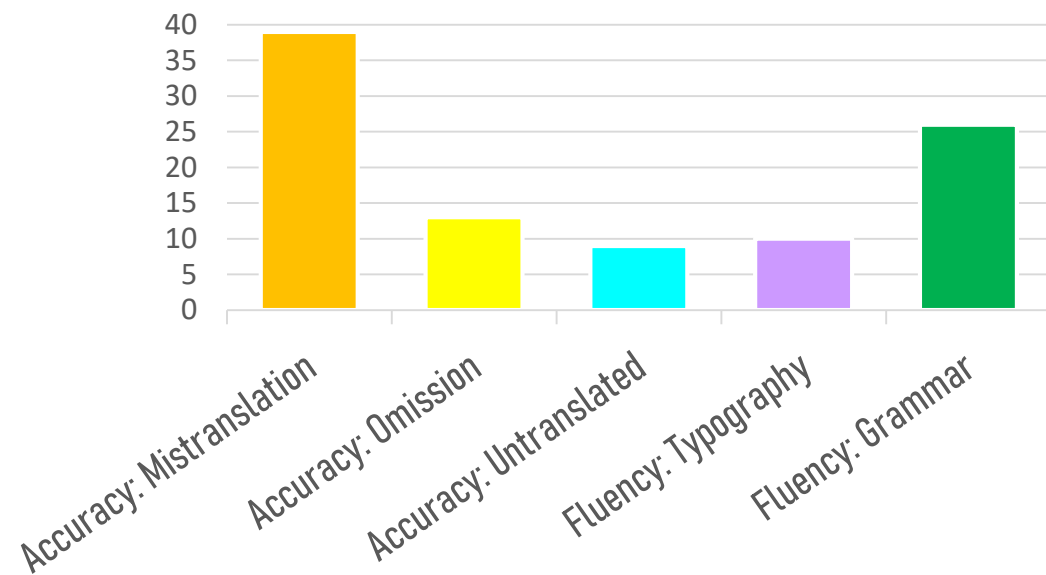
EN>GE Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
It is made in the body naturally as a result of exposure to sunlight, which is why people living in northern climates [...]	Es wird im Körper auf natürliche Weise durch Sonneneinstrahlung hergestellt, weshalb die Menschen im nördlichen Klima [...]	It is made in the body naturally as a result of exposure to sunlight, which is why people who live in northern climates [...]	Es wird im Körper auf natürliche Weise durch Sonneneinstrahlung erzeugt, weshalb Menschen, die in nördlichen Klimazonen leben [...]

→ Eliminate unnecessary -ING phrases

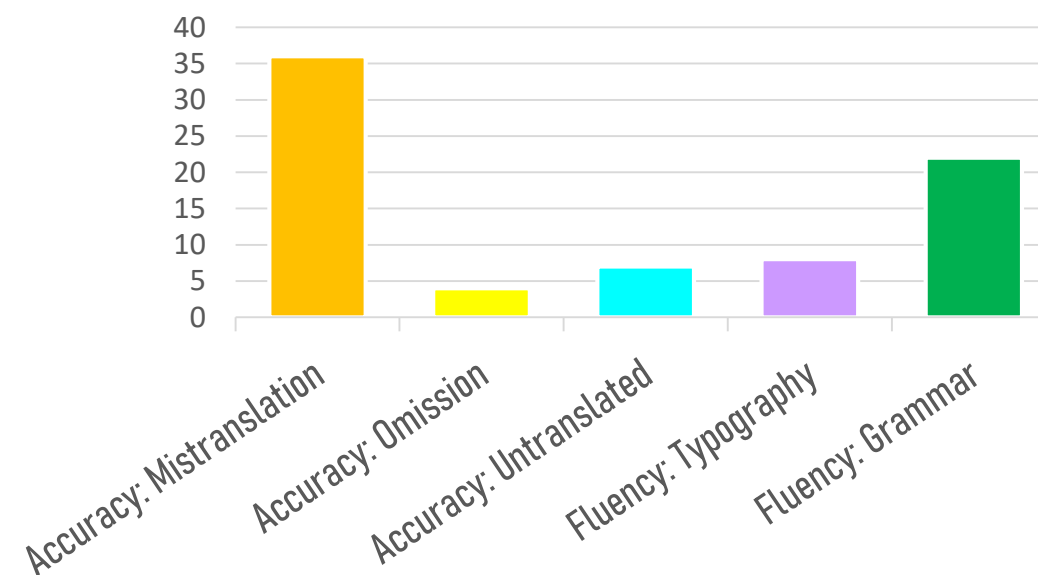
English>Spanish Results

Errors before PE



- Accuracy: Mistranslation
- Accuracy: Omission
- Accuracy: Untranslated
- Fluency: Typography
- Fluency: Grammar

Errors after PE



- Accuracy: Mistranslation
- Accuracy: Omission
- Accuracy: Untranslated
- Fluency: Typography
- Fluency: Grammar

EN>SP Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
Vitamin D supplements don't help bone health, major study concludes	Los suplementos de vitamina D no ayudan a la salud de los huesos, concluye un estudio importante	Major study concludes that Vitamin D supplements don't help bone health	Un importante estudio concluye que los suplementos de vitamina D no ayudan a la salud de los huesos

→ Add the connective *that*

EN>SP Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
The new meta-analysis is led by the longstanding experts on vitamin D Profs Mark Bolland and Andrew Grey [...] and Prof Alison Avenell	El nuevo meta-análisis está dirigido por los expertos de larga data en vitamina D Profs Mark Bolland y Andrew Grey [...] y la Prof. Alison Avenell	...experts on vitamin D Professors Mark Bolland and Andrew Grey [...] and Professor Alison Avenell	...por los expertos de larga data en vitamina D, los profesores Mark Bolland y Andrew Grey [...] y la profesora Alison Avenell.

→ Spell out acronyms and abbreviations

EN>SP Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
Biggest ever review of evidence recommends the government ditch its advice to take them throughout winter	La mayor revisión de la evidencia en la historia recomienda que el gobierno se deshaga de sus consejos para tomarlos durante el invierno.	Biggest ever review of evidence recommends the government ditch its advice to take the supplements throughout winter	...recomienda que el gobierno se deshaga de su consejo de tomar los suplementos durante el invierno

→ Replace unclear pronoun referents (e.g. *them*)

EN>SP Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
<p>It is made in the body naturally as a result of exposure to sunlight.</p>	<p>Se produce en el cuerpo de forma natural como resultado de la exposición a la luz solar.</p>	<p>Vitamin D is made in the body naturally as a result of exposure to sunlight.</p>	<p>La vitamina D se produce en el cuerpo naturalmente como resultado de la exposición a la luz solar.</p>

→ Replace unclear pronoun referents (e.g. *it*)

EN>SP Examples of successful PE

Source text	1st Translation with DeepL	Pre-edited ST	2nd Translation with DeepL (after PE)
<p>He said further trials looking at the effects of vitamin D on bone health would be pointless.</p> <p>“I do think they should change the guidance,” she said.</p>	<p>Dijo que los ensayos adicionales que analizan los efectos de la vitamina D sobre la salud ósea no tendrían sentido.</p> <p>"Creo que deberían cambiar la orientación", dijo.</p>	<p>Bolland said further trials looking at the effects of vitamin D on bone health would be pointless.</p> <p>“I do think they should change the guidance,” Allison said.</p>	<p>Bolland aseguró que los ensayos adicionales que evalúan los efectos de la vitamina D sobre la salud ósea no tendrían sentido.</p> <p>"Creo que deberían cambiar la guía", dijo Allison.</p>

Final comparison between Language pairs

- Acronyms, dates and typography were better translated/recognized in the language pair EN>SP

...findings from the UK government's scientific advisory committee on nutrition (**SACN**)

...comité científico asesor del gobierno del Reino Unido sobre nutrición (SACN, **por sus siglas en inglés**)

- EN>SP gender recognition failed in most of the cases

"I do think they should change the guidance," Professor Allison said.

"Creo que deberían cambiar la guía", dijo **el profesor** Allison.

Final comparison between Language pairs

- Verbs with **-ing form** do not present problems in the pair EN>SP but in EN>GE, while past tense/subjunctive is often not recognised in Spanish

The new meta-analysis **is published** in the Lancet Diabetes and Endocrinology journal and **led** by [...]

El nuevo meta-análisis **se publica** en la revista Lancet Diabetes and Endocrinology y **está dirigido** por [...]

[if the advisors] really **believed**...

si los consejeros realmente **creen** que...

Final comparison between Language pairs

- Especially Accuracy errors (terminology) and Style were not suitable for PE

Egg laid → puesto (=puesta)

Evidence → evidencias (=pruebas)

Odds ratio → Quotenquote (= Quotenverhältnis)

Oily fish → öliger Fisch (=Fettfisch)

- Currency conventions present better results in EN>GE

fine of \$200,000 → multa de \$200,000 / Geldstrafe von 200.000 \$

Such a turtle can fetch \$500 to \$600 → ...puede llegar a costar entre \$500 y \$600 / Eine solche Schildkröte kann 500 bis 600 Dollar einbringen

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Thank you
Vielen Dank
Gracias

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