



LIÈGE université

UR CIRTl

Centre Interdisciplinaire de Recherches  
en Traduction et en Interprétation



LABORATOIRE D'INFORMATIQUE DE GRENOBLE

# *Machine Translation and Fantasy: Reflections on Individualized MT*

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CIRTI Conference: « Le traducteur à l'ère des nouvelles technologies »

## IV. Un projet en cours d'élaboration

Élaboration d'un moteur de traduction adapté à la traduction littéraire :

- ◆ Tirer parti des dernières avancées en matière de traduction neuronale (cf. Bahdanau et coll. 2014).
- ◆ Envisager un moteur de traduction 'spécialisé' (cf. Wiggins 2018).
  - ↳ Si l'efficacité de la TLAO dépend des mémoires utilisées, il en va de même pour la TA.

1. Development
2. Evaluation
3. Meeting with literary translators
4. Conclusion

# 1. Development



# 1. Development

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- ◇ OpenNMT-py
- ◇ Transformer
- ◇ 5-7 days training

# 1. Development

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Books



EuroParl



News



GlobalVoices

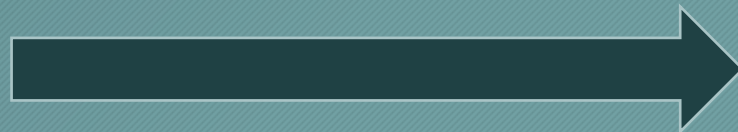


Video Game



TED

1010  
1010



~4M sent.  
total

vs

~40M sent.  
WMT14

vs

6M sent.  
considered  
'frugal' today

# 1. Development

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# 1. Development

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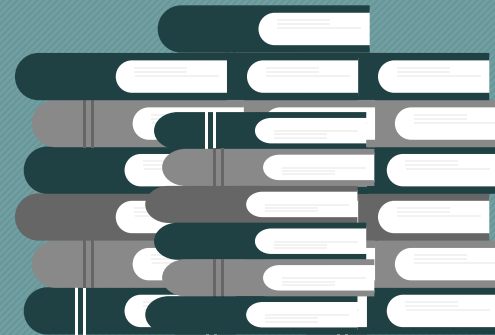


generic > saga



6 novels  
45K sent.

generic > varied literature



225 novels  
595K sent.



## 2. Evaluation

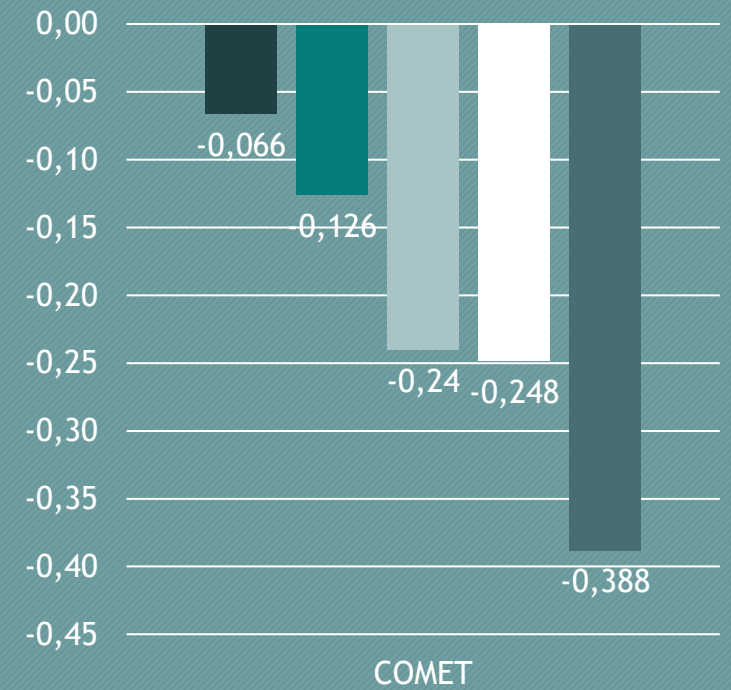
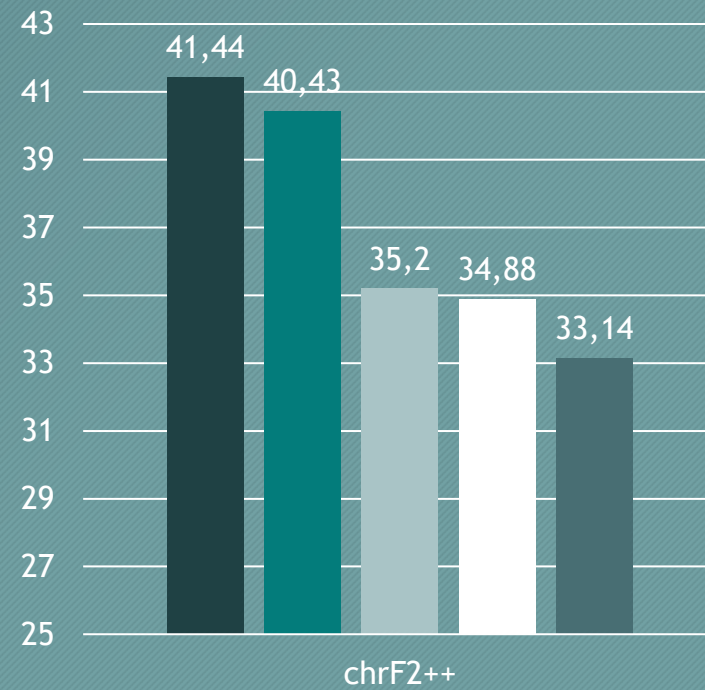
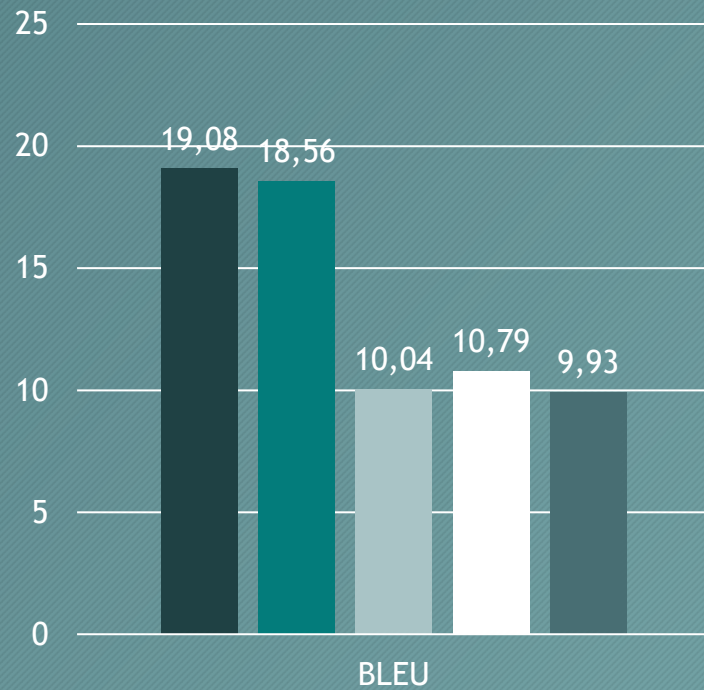
## 2. Evaluation

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- ◇ MT evaluation metrics
- ◇ Expanding ratio, to reflect explicitation
- ◇ Lexical richness, to reflect simplification
- ◇ Syntactic equivalence, to reflect convergence
- ◇ Error annotation

# 2. Evaluation

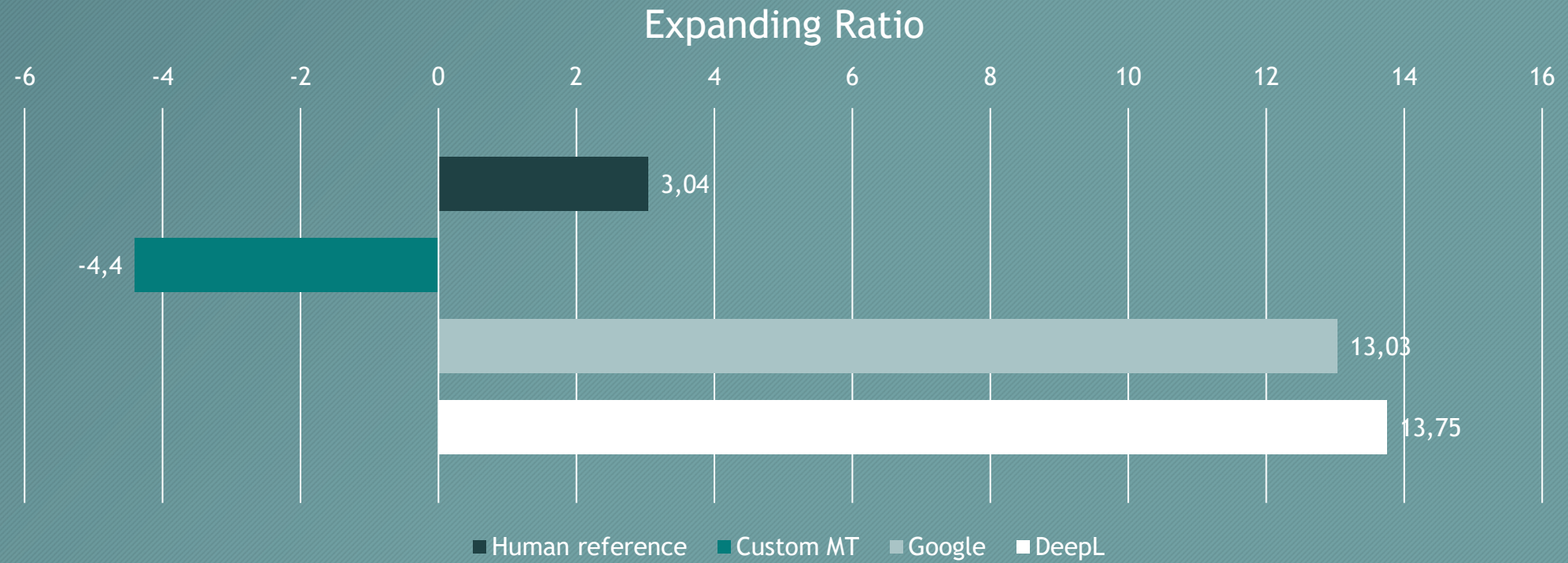
### Evaluation Metrics



■ Custom MT v2 ■ Custom MT v1 ■ Google ■ DeepL ■ Generic

## 2. Evaluation

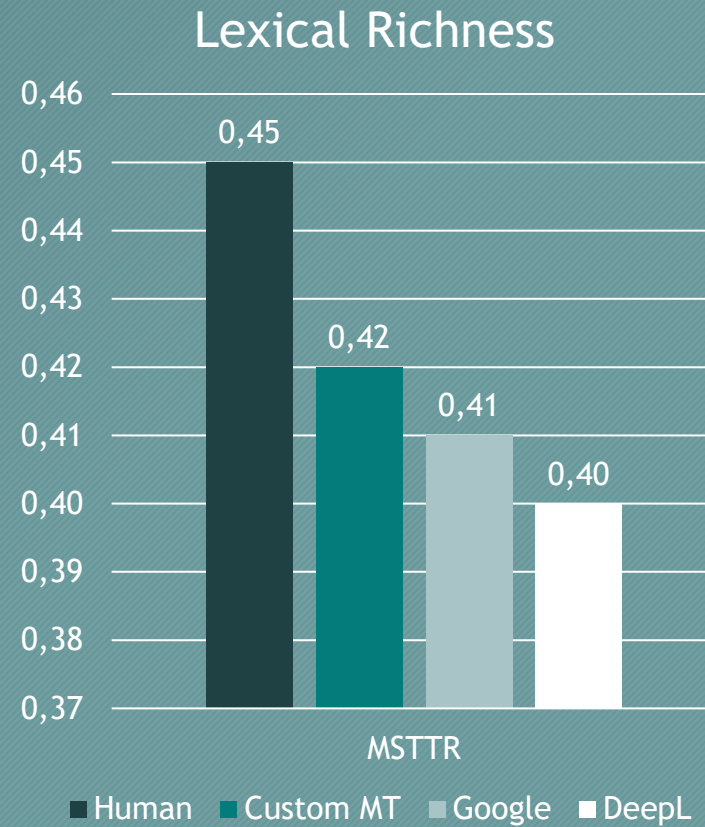
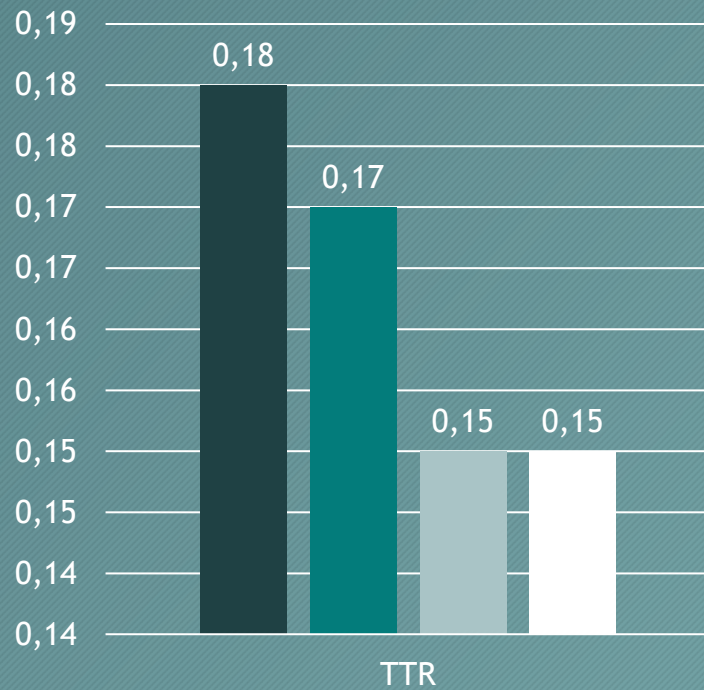
12





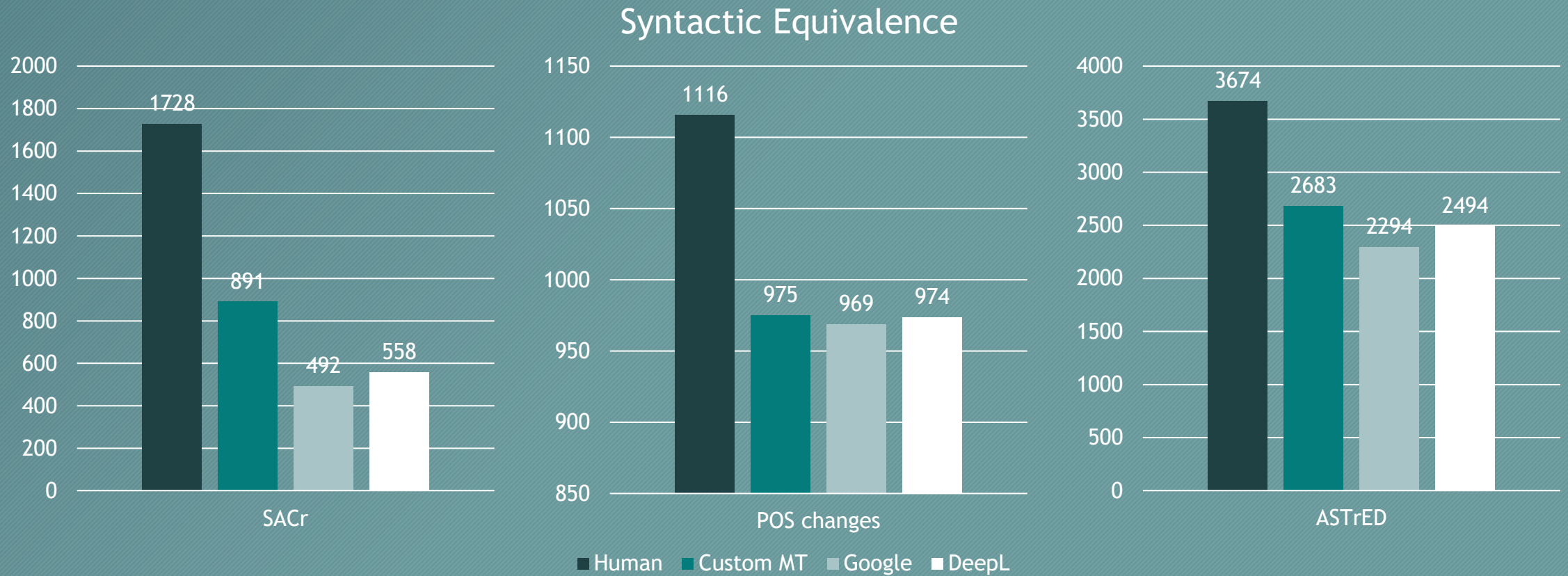
## 2. Evaluation

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## 2. Evaluation

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## 2. Evaluation

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◀ Aller au segment précédent    Tableau des segments    Valider le segment courant ✓    Aller au segment suivant ▶

Phrase référence

Jenna promena son regard autour du hall, peuplé d'ombres et de fantômes, puis elle sortit de sa poche l'allume-bougies magique que Septimus lui avait offert cet après-midi-là et entreprit de rallumer quelques-unes des dizaines de chandelles que la Ténèbre avait soufflées.

Phrase source 🗑️ ⏪ ⏩

Jenna looked around the entrance hall, which was full of shadows and ghosts. She reached into her pocket for the Candlelight Charm Septimus had given her that afternoon and began lighting **the first of many extinguished candles.**

Phrase cible 🗑️ ⏪ ⏩

Jenna promena son regard autour du hall d'entrée, qui était rempli d'ombres et de fantômes, et plongea la main dans sa poche pour récupérer le charme que Septimus lui avait offert cet après-midi-là. Elle commença à allumer **les premières bougies éteintes.**

Source	Cible	Erreur	Actions
the first of many extinguished candles	les premières bougies éteintes.	I - Logique	Ajouter l'erreur

Récapitulatif [Supprimer des erreurs](#)

Source	Cible	Erreur	Actions
Candlelight Charm	charme	Adéquation > Contenu > <b>Sous-traduction</b>	

## 2. Evaluation

### ◇ Observations from the error annotation:

- Errors regarding mainly lexical choices, meaning (!), and style (surprisingly, less errors strictly related to literary aspects than expected).
- Despite the paraphrases and the adaptation, a number of translations are still way too literal.
- Even with the use of paraphrases and synonyms by the MT system, the translator plays a lot more with names and mentions of characters:
- Colloquial and spoken language create frequent disambiguation problems.



## 2. Evaluation

### ◆ Observations from the error annotation:

- Virtually all the vocabulary specific to the series is maintained.
- A lot of heavy syntactic reorganizations that are in line with our translator.
- Even omissions made by the system reflect a similar choice from the translator.
- Terms are not systematically translated the same way and are sometimes rendered by synonyms or periphrases also used by the translator:

E.g. *Wizard Tower courtyard* >> *cour de la tour du Magicien, cour du Magicien, cour de la tour*

## 2. Evaluation

### ◇ Observations from the error annotation:

- Translation choices similar to those of the translator:

- recurrent lexical items or phrases;
- discourse information (e.g. *said grimly* >> *dit d'un ton sinistre*);
- modulations (e.g. *as they watched the sun rise* >> *tandis que le soleil se levait*);
- transpositions (e.g. *looked in panic* >> *regardèrent, paniqués*);
- contractions (e.g. *were beginning to fall; they drifted lazily* >> *tombaient paresseusement*  
*she had rushed off to the Palace as soon as she could* >> *elle s'était précipitée au palais*  
*I shall go and ask to look for* >> *j'irai consulter*);
- ...

## 4. Conclusion

## 4. Conclusion

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- ◇ Contrary to some generally accepted ideas, fantasy novels are not necessarily the easiest for MT.
- ◇ Creativity plays an important role in portraying characters, preserving humour, keeping readers entertained, building fictional worlds...
- ◇ It clearly shows the added value of human translation,
- ◇ but it also seems to effectively illustrate the potential usefulness of MT, especially if the system is adapted to an individual translator.



## 4. Conclusion

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- ◇ Although our system is not the most robust,
- ◇ it does show that we can adapt MT not only to a domain, but to a human level.
- ◇ Individualized MT could help improve speed, quality, creativity and coherence, without constraining human translators too much.
- ◇ These systems would naturally offer suggestions that are more relevant.
- ◇ And it could also be a way to empower translators, while protecting their work.

## 4. Conclusion

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◇ In my opinion, this means that:

We have to rethink/redesign existing tools in a way that best support creativity and biotranslators' USP.

We (esp. translators associations) have an important role to play in negotiating translators' fair compensation, addressing future challenges and pushing for better tools.

### 3. *Meeting with literary translators*

## 3. Meeting with literary translators

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- ◇ Third and final chapter of the thesis: sitting with translators themselves.
- ◇ Question for you: what do you think would be the most interesting thing to ask?
- ◇ Let's open the debate and discuss this during our last round table!





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### La traduction littéraire automatique : Adapter la machine à la traduction humaine individualisée

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#### Résumé

La traduction automatique neuronale et son adaptation à des domaines spécifiques par le biais de corpus spécialisés ont permis à cette technologie d'être utilisée plus largement, notamment la création de

### Human-Adapted MT for Literary Texts: Reality or Fantasy?

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#### Abstract

This article presents the evaluation of an MT system adapted to the work of a literary translator who specializes in fiction. Actualizing a research avenue for the English–French pair

For this purpose, we trained a Transformer model on a subset of six fantasy novels from a single series, as described in Hansen et al. (forth.). The aim of this article is to go beyond simple metrics of performance, to investigate commonly addressed features of MT and human translation

For further details...



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Thank you for the attention