

OPUS

Parallel Corpora for
Everyone
(NLPL-Activity G)

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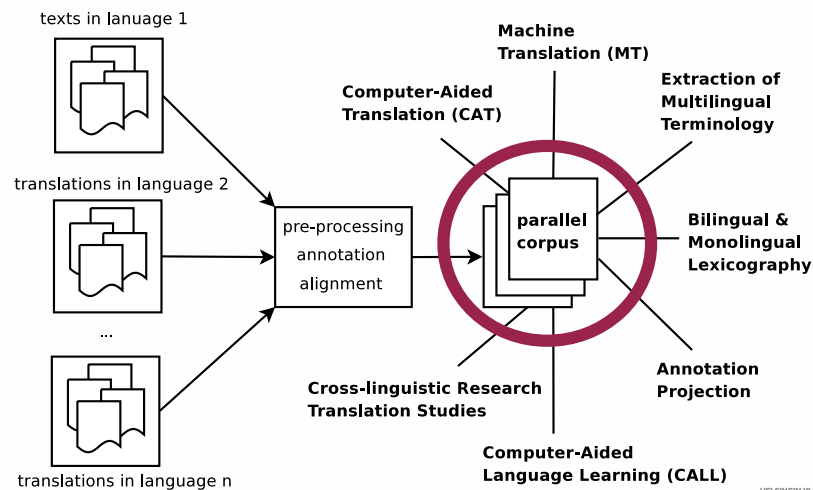
Rosendal 2002



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The Amazing Utility of Parallel Corpora



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NoDaLiDa 2003 in Reykjavík

OPUS - an open source parallel corpus

<http://logos.uio.no/opus/>

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1 Introduction

Parallel corpora are useful in a wide variety of research areas, particularly in machine translation and lexicography. However, parallel corpora have been few, often unrepresentative, and not generally available. The aim of the OPUS project is to provide a public collection of parallel corpora which can be freely used and distributed. This makes it possible for everyone to

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Now at <http://opus.nlpl.eu>

Home / Query / WordAlign / Wiki [books] [DGT] [DOGC] [ECB] [EMEA] [EUbooks] [EU] [Europarl] [GNOME] [GlobalVoices] [hren] [JRC] [KDE4/doc] [MBS] [MultiUN] [NCv9/v11] [OO/OO3] [subs/12/13/16] [ParCor] [PHP] [SETIMES] [SPC] [Tatoeba] [TEP] [TedTalks] [TED] [Tanzil] [Ubuntu] [UN] [WikiSource] [Wikipedia] [WMT]

OPUS ... the open parallel corpus

OPUS is a growing collection of translated texts from the web. In the OPUS project we try to convert and align free online data, to add linguistic annotation, and to provide the community with a publicly available parallel corpus. OPUS is based on open source products and the corpus is also delivered as an open content package. We used several tools to compile the current collection. All pre-processing is done automatically. No manual corrections have been carried out.

The OPUS collection is growing! Check this page from time to time to see new data arriving ... Contributions are very welcome! Please contact <jorg.fiedemann@lingfil.uu.se>

Search & download resources: -- select -- all

Search & Browse

- OPUS multilingual search interface
- Europarl v7 search interface
- Europarl v3 search interface
- OpenSubtitles search interface
- EUconst search interface
- Word Alignment Database

Tools & Info

- OPUS Wiki
- Tools for tagging and parsing
- Downloads (tools and models)
- Other annotation and corpus tools
- Experimental visualization tool for monolingual and parallel treebanks (demo)
- Uplug at bitbucket
- A reliable Language Identifier

Sub-corpora (downloads & infos):

- Books - A collection of translated literature (DOGC2014-07-17.tar.gz - 236 MB)
- DGT - A collection of EU Translation Memories provided by the JRC
- DOGC - Documents from the Catalan Government (DOGC2014-07-17.tar.gz - 702 MB)
- ECB - European Central Bank corpus
- EMEA - European Medicines Agency documents (EMEA0.3.tar.gz - 5.0 GB)
- The EU bookshop corpus (EUbookshop/EUbookshop.2.tar.gz - 33 GB)
- EUconst - The European constitution (EUconst0.1.tar.gz - 67 MB)
- EUROPARL v7 - European Parliament Proceedings (Europarl7.tar.gz - 8.4 GB)
- EUROPARL - European Parliament Proceedings (Europarl3.tar.gz - 3.6 GB)
- GNOME - GNOME localization files (GNOME2014-08-20.tar.gz - 9 GB)
- Global Voices - News stories in various languages (GlobalVoices2015.tar.gz - 1.1 GB)
- The Croatian - English WaC corpus (hrenWaC1.tar.gz - 48 MB)
- JRC-Acquis - legislative EU texts
- KDE4 - KDE4 localization files (v.2) (KDE4.tar.gz - 1.4 GB)
- KDEdoc - the KDE manual corpus (KDEdoc.tar.gz - 35 MB)
- MBS - Belgisch Staatsblad corpus
- MultiUN - Translated UN documents

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OPUS

Highlights

- over 200 language and language variants
- 29 million documents, 3.2 billion sentences, 28 billion tokens
- several domains (legislation, medical, subtitles ...)
- 12,572 language pairs, 10.8 billion translation units
- available in several formats (OPUS XML, TMX, Moses)

Tools & online services

- tools for conversion, annotation, alignment
- online search interfaces
- word alignment database + concordances

<http://opus.nlpl.eu>

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What Is Included?

OPUS

- Copyright-free Books
- DGT translation memories
- DOGC (Catalan Government)
- European Central Bank
- European Medicines Agency
- EU Bookshop
- EuroParl
- GNOME, KDE, OpenOffice, PHP, Ubuntu localisation files
- Global Voices News
- Croatian-English WaC
- JRC-Acquis
- Belgisch Staatsblad
- United Nations corpora
- News Commentary, WMT sets
- OpenSubtitles
- SETIMES
- Tatoeba
- TedTalks
- Tanzil Quran Translations
- Wikipedia, WikiSource

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How To Find Resources

link to corpus website select source language select target language select size UD parsed word alignment bilingual dictionaries alternative alignments

Search & download resources: en (English) fr (French) >10M

Language resources: click on [tmx|moses|xces|lang-id] to download the data! (raw = untokenized, ud = parsed with universal dependencies, alg = word alignments and phrase tables)

corpus	doc's	sent's	en tokens	fr tokens	XCES/XML	raw	TMX	Moses	mono raw	ud	alg	dic	freq	other files
EUbookshop	16947	10.8M	406.8M	431.8M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
MultiUN	87480	14.2M	373.8M	454.6M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
OpenSubtitles2018	55650	45.2M	363.4M	338.0M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample] [alt]	
OpenSubtitles2016	44253	37.3M	299.0M	276.0M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
DGT	26879	3.1M	72.8M	68.7M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
Europarl	9428	2.1M	59.9M	65.7M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
JRC-Acquis	12056	0.8M	34.2M	36.4M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
Wikipedia	2	0.8M	23.0M	17.8M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
EMEA	1933	1.1M	12.0M	14.8M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
GlobalVoices	14501	0.3M	7.0M	7.4M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
ECB	1	0.2M	5.7M	6.5M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
News-Commentary-H	7398	0.2M	6.7M	5.2M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
GNOME	2293	0.9M	5.6M	5.3M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
News-Commentary	1	0.2M	4.7M	5.4M	[xces en fr] [en fr]	[tmx] [moses]			en fr en fr	en fr en fr	en fr	en fr	[query] [sample]	
total	278822	117.2M	1.7G	1.7G	117.2M	89 M	108 M							

data in XML (tokenized) untokenized XML bilingual TMX aligned plain text monolingual plain text word frequencies search interface alignment sample

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On-Line Search

Language list: Europarl3, KDE4, KDE5, KDE5ec, OpensPublic, OpensOffice, OpensOffice3, OpensSubtitles, OpensSubtitles2, PHP, SETIMES2, TEJ, TSD1, TSD1k, UN, Wikisource, WmtVat.

Query: [words="suffer*"] PA () RU () SW () TR () ZH ()

8865 They had suffered affliction and loss, and were shiden and tossed about so that even the Apostle had to cry out with his followers: "When will the help of God arrive?"

16431 God will not address or even regard them on the Day of Reimention, nor perfect them, and their suffering will be painful.

Results from 8865 and 16431 in various languages with alignment options.



On-Line Search

Query: "as" [nt="JJ.*"] "as" <chunk_type="NP"> []+ </chunk>

Display: tokens = word, phrases = off, context = sentence

Keyword: [nearest] within [5 words] from [match]

Alignments: da de el es fi fr it nl pt sv

1. Chapter 4, Koch (DE) **de**
 context We would like to ensure that there is a reference to this **as early as the recitals** and that the period within which the Council has to make a decision - which is not clearly worded - is set at a maximum of three months.
 Wir möchten sicherstellen, daß hierauf bereits in den Erwägungsgründen hingewiesen wird und die eindeutig formulierte Frist, innerhalb der der Rat eine Entscheidung treffen muß, auf maximal drei Monate fixiert wird.

2. Chapter 3, Färm (SV) **de**
 context Our experience of modern administration tells us that openness, decentralisation of responsibility and qualified evaluation are often **as effective as detailed bureaucratic supervision** .
 Unsere Erfahrungen mit moderner Verwaltung besagen, daß Transparenz, Dezentralisation der Verantwortlichkeiten und eine qualifizierte Auswertung oft ebenso effektiv sind wie bürokratische Detailkontrolle.

3. Chapter 4, Caudron (FR) **de**
 context Essentially, my opinion is as follows : I deplore the fact that, in a field **as crucial as the transport** of dangerous goods , we keep putting off the adoption of harmonised standards to the detriment of human
 Es läßt sich folgendermaßen zusammenfassen : ich bedaure, daß wir in einem so wichtigen Bereich wie der Beförderung gefährlicher Güter die Annahme von harmonisierten Normen auf Kosten

tokens = [2305 matches]



A Multilingual Word-Alignment Database

bul / chi / cze / dan / dut / ell / eng / est / fre / ger / gle / heb / hrv / hun / ice / ita / jpn / lav / lit / mlt / nor / pob / pol / por / rum / rus / slo / slv / spa / swe / t

OPUS: Search Word Alignment Database for eng

- bul
- chh
- cze
- dan
- dut
- ell
- est
- fin
- fre
- ger
- gle
- heb
- hrv
- hun
- ice
- ita
- jpn
- lav
- lit
- mlt
- nor
- pob
- pol
- por
- rum
- rus
- slo
- slv
- spa
- swe
- tur

honey [select] from all EUconst Europarl3 OpensSubtitles

Examples from the OpensSubtitles corpus

dut >> 663 honing 180 schat 108 schatje 95 lieverd 42 liefje	ell >> 379 μέλι 279 μελισσό 45 το μέλι 11 αγάπη 9 γλυκιά	fre >> 697 miel 76 chérie 54 le miel 42 miels 37 chéri	ita >> 735 miele 41 il miele 21 del miele 6 tesoro 6 cara
por >> 759 mel 271 querida 130 querido 28 o mel 26 Querida	spa >> 813 miel 369 cariño 64 querida 55 mieles 42 querido	swe >> 541 honung 245 älskning 57 honungen 30 raring 26 gumman	tur >> 220 tulum 29 hayatım 17 canım 14 Tulum 5 Hayatım

901795 Show me the way home , honey .
 swe Visa mig vägen hem , älskning .
 2228799 What's up , honey ?
 swe Vad är det , älskning ?
 2230747 Clara , sweetie , honey .
 swe Clara , älskning ...
 2230765 Clara , sweetie , honey .
 swe Clara , älskning ...
 7905885 Let's go back , honey .
 swe Vi åker tillbaka , älskning !
 7957671 Jerry , honey ?
 swe Jerry , älskning ...
 9920396 Kenai , honey , shh , shh , shh , shh , shh .
 swe Kenai , älskning ...
 10083255 Here we go , honey .
 swe Nu gäller det älskning .
 10730936 Well , I just wanted to get a little closer to you , honey .
 swe Jag ville barn komma lite närmare dig , älskning .



File Structure in OPUS

On Taito: /proj/nlpl/data/OPUS/corpus

- Europarl
- Europarl/xml
- Europarl/xml/en
- Europarl/xml/en/ep-10-07-05-004.xml.gz
- Europarl/xml/fr
- Europarl/xml/fr/ep-10-07-05-004.xml.gz
- ...
- Europarl/xml/en-fr.xml.gz
- ...
- Europarl/raw
- Europarl/raw/en
- Europarl/raw/en/ep-10-07-05-004.xml.gz
- Europarl/raw/fr
- Europarl/raw/fr/ep-10-07-05-004.xml.gz
- ...
- Europarl/parsed



Internal XML Format

```
<?xml version="1.0" encoding="utf-8"?>
<document>
  <CHAPTER ID="0">
    <P id="1"></P>
    <SPEAKER ID="1" LANGUAGE="DE" NAME="Rübig">
      <P id="2">
        <s id="1">Madam President, I saw a few boats landing at
          Parliament this week and notified the security
          service.</s>
        <s id="2">Not only were there language difficulties; the
          telephone line was so poor that it was almost
          impossible to communicate.</s>
        <s id="3">I would be most obliged if the number on which
          the security service can be reached could also
          be clearly displayed in the House, so that if
          anyone wants to report an incident, they can do
          so quickly and efficiently.</s>
      </P>
    <P id="3"></P>
  </SPEAKER>
  ...
```



Sentence Alignment

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE cesAlign PUBLIC "-//CES//DTD XML cesAlign//EN" "">
<cesAlign version="1.0">

  <linkGrp targType="s" fromDoc="en/ep-00-01-17.xml.gz"
    toDoc="fr/ep-00-01-17.xml.gz">

    <link xtargets="1;1" />
    <link xtargets="2;2" />
    <link xtargets="3;3 4" />
    ...
```

aligns sentence 3 with
sentences 3 and 4



Sentence Alignment

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE cesAlign PUBLIC "-//CES//DTD XML cesAlign//EN" "">
<cesAlign version="1.0">

  <linkGrp targType="s" toDoc="fr/2005/CES_AC71_2005_5SUMMARY.xml.gz"
    fromDoc="en/2005/CES_AC71_2005_5SUMMARY.xml.gz">

    <link certainty="0" xtargets="1 2" id="SL1" />
    <link certainty="0.612088" xtargets="1;3" id="SL2" />
    <link certainty="0.173077" xtargets="2;4" id="SL3" />
    <link certainty="1.65065" xtargets="3;5" id="SL4" />
    <link certainty="1.63824" xtargets="4;6" id="SL5" />
    <link certainty="-0.3" xtargets=";7" id="SL6" />
```

alignment scores

insertion of a target language sentence



UD-Parsed Corpora (UDPipe)

```
<?xml version="1.0" encoding="utf-8"?>

<document>
  <CHAPTER ID="002">
    <P id="1">
      <s id="1">
        <w xpos="NOUN" head="1.2" feats="Number=Plur" upos="NOUN"
          lemma="document" id="1.1" deprel="nsubj">Documents</w>
        <w xpos="VERB" head="0" feats="Mood=Ind|Tense=Past|
          VerbForm=Fin" upos="VERB" misc="SpaceAfter=No" lemma="receive"
          id="1.2" deprel="root">received</w>
        <w xpos="PUNCT" head="1.2" upos="PUNCT" lemma=":"
          id="1.3" deprel="punct">:</w>
        <w xpos="VERB" head="1.2" feats="Mood=Imp|VerbForm=Fin"
          upos="VERB" lemma="see" id="1.4" deprel="parataxis">see</w>
        <w xpos="PROPN" head="1.4" feats="Number=Plur"
          upos="PROPN" misc="SpaceAfter=No" lemma="Minutes" id="1.5"
          deprel="obj">Minutes</w>
      </s>
    </P>
  </CHAPTER>
</document>
```



Downloadable Packages

On Taito: [/proj/nlpl/data/OPUS/download](#)

```
Europarl/en.tar.gz
Europarl/en.raw.tar.gz
Europarl/en-pt.xml.gz
Europarl/en-pt.txt.zip
Europarl/en-pt.tmx.gz
```

On Abel: [/projects/nlpl/data/OPUS/download](#)

```
Europarl/en.raw.tar.gz
Europarl/en-pt.xml.gz
```



Word Alignment and Phrase Tables

On Taito: [/proj/nlpl/data/OPUS/wordalign](#)

```
wordalign/Europarl/en-fr/model/aligned.grow.gz
wordalign/Europarl/en-fr/model/aligned.srctotgt.gz
wordalign/Europarl/en-fr/model/aligned.grow-diag-final-and.gz
wordalign/Europarl/en-fr/model/aligned.intersect.gz
wordalign/Europarl/en-fr/model/aligned.tgtsosrc.gz
wordalign/Europarl/en-fr/model/phrase-table-filtered.gz
wordalign/Europarl/en-fr/c.true.fr.gz
wordalign/Europarl/en-fr/c.true.en.gz
wordalign/Europarl/en-fr/ids.gz
```

↓

en/0/1089124/4995691.xml.gz	fr/0/1089124/4588599.xml.gz	1	1
en/0/1089124/4995691.xml.gz	fr/0/1089124/4588599.xml.gz	2 3	2
en/0/1089124/4995691.xml.gz	fr/0/1089124/4588599.xml.gz	5 6	3
en/0/1089124/4995691.xml.gz	fr/0/1089124/4588599.xml.gz	7 8 9	4
...			



OPUS Tools

On Taito: [module load nlpl-opus](#)

```
opus-read corpusname/lang-pair
opus-read -d corpusname lang-pair
opus-read -d corpusname -s srclang -t trglang
```

```
# print alignments with alignment certainty > LinkThr=0
opus-read -c 0 align-file.xml
```

```
# alignments with max 2 source sentences and 3 target sent's
opus-read -S 2 -T 3 align-file.xml
```



Links

Main webpage: <http://opus.nlpl.eu>

Documentation: <http://opus.nlpl.eu/trac> (wiki)

Search interfaces:

- <http://opus.nlpl.eu/bin/opuscqp.pl>
- <http://opus.nlpl.eu/cwb/Europarl7/frames-cqp.html>
- <http://opus.nlpl.eu/cwb/OpenSubtitles/frames-cqp.html>

Word alignment dictionary: <http://opus.lingfil.uu.se/lex.php>

Location in NLPL: [\\$NLPL-HOME/data/OPUS](#)