

# SUNOIKISIS DC 2015

## SESSION 15: TEXT ALIGNMENT IN ACTION

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# ALIGN

Pronunciation: /ə'laɪn/. Verb.

**1.1 Put (things) into correct or appropriate relative positions:** *the fan blades are carefully aligned*

**figurative** *aligning domestic prices with prices in world markets*

*All this notwithstanding, the proposed Department is a positive move to align national form and function. How do you move them from one point to the other, without going through that point that characterizes that mind - correcting it and aligning it, to conform to the overall Classical understanding?*

## Origin

Late 17th century: from French *aligner*, from *à ligne* 'into line'.

[Oxford Dictionaries](#)

# THE PLAN

**Introduction:** what is alignment, and why should we care?  
How do we do it?

**Demonstration:** what happens when we align **Greek** to **Latin**?  
And when we align Latin (translation) to **English** (translation)?  
And when we align Latin to **French**?  
And when we align **two Latin translations**?

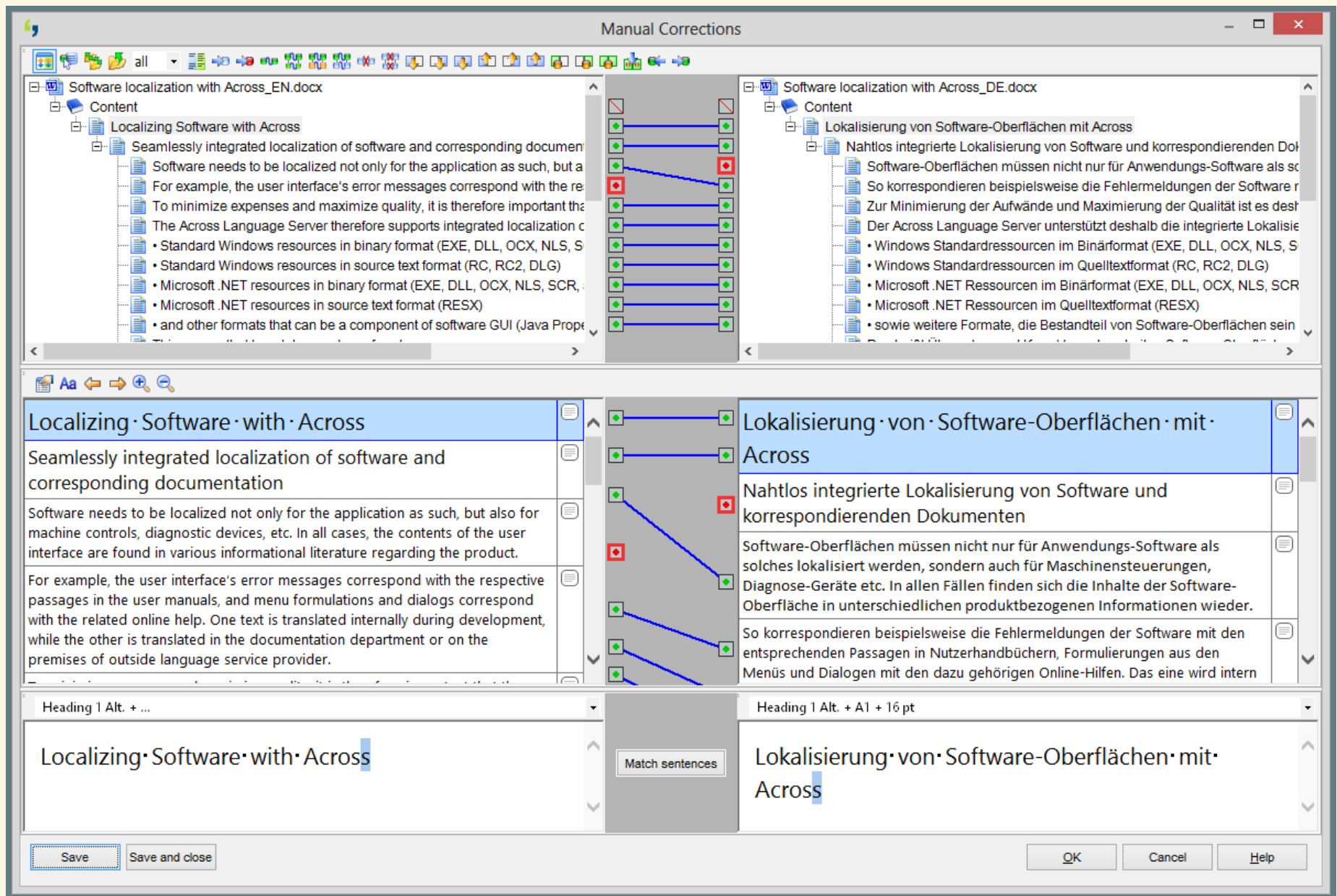
**Conclusion:** discuss!

And you try it out too!

**WHAT IS ALIGNMENT?**

# **A STRATEGY IN AUTOMATED TRANSLATION**

reusable, machine-supported, used mostly for technical translation



**"MOST COMMERCIAL TRANSLATION MEMORY APPLICATIONS  
NOW INCLUDE AN ALIGNER AS PART OF A SUITE OF TOOLS."**

**"ALIGNMENT IS A WAY OF MAKING USE OF PREVIOUS  
TRANSLATIONS."**

**"TRANSLATION MEMORY IS CREATED FROM EXISTING  
TRANSLATED MATERIALS."**

**"CONVERT LEGACY TRANSLATIONS INTO MONEY SAVING  
TRANSLATION MEMORIES!"**



## **PERHAPS MORE FAMILIAR TO PHILOLOGISTS:**

A parallel text is a text placed alongside its translation or translations.

Parallel text alignment is the identification of the corresponding sentences in both halves of the parallel text.

GELLIUS, *Attic Nights*

LCL 212: 78-79

Go to page:  GO[Find in a Library](#) [View cloth edition](#)

## ATTIC NIGHTS OF AULUS GELLIUS

- tertium vitae annum cum periculo et clade aliqua venire aut corporis morbiue gravioris aut vitae interitus aut animi aegritudinis. Propterea, qui rerum verborumque istiusmodi studio tenentur eum aetatis annum appellant *κλιμακτηρικόν*.
- 3 Nocte quoque ista proxima superiore, cum librum *Epistularum* divi Augusti, quas ad Gaium nepotem suum scripsit, legeremus duceremurque elegantia orationis neque morosa neque anxia, sed facili hercle et simplici, id ipsum in quadam epistula super eodem anno scriptum offendimus; eiusque epistula exemplum hoc est:

“IX. Kal. Octobris.

“Ave, mi Gai, meus asellus iucundissimus, quem semper medius fidius desidero, cum a me abes. Set praecipue diebus talibus, qualis est hodiernus, oculi mei requirunt meum Gaium, quem, ubicumque hoc die fuisti, spero letum et bene valentem celebrasse quantum et sexagesimum natalem meum. Nam, ut vides, *κλιμακτῆρα* communem seniorum omnium tertium et sexagesimum annum evasimus. Deos autem oro ut mihi quantumcumque superest

## BOOK XV. VII.

is attended with danger, and with some disaster involving either serious bodily illness, or loss of life, or mental suffering. Therefore those who are engaged in the study of matters and terms of that kind call that period of life the “climacteric.”<sup>1</sup>

Night before last, too, when I was reading a volume of letters of the deified Augustus, written to his grandson Gaius, and was led on by the elegance of the style, which was easy and simple, by Heaven! without mannerisms or effort, in one of the letters I ran upon a reference to this very belief about that same year. I give a copy of the letter:<sup>2</sup>

“The ninth day before the Kalends of October.<sup>3</sup>

“Greeting, my dear Gaius, my dearest little donkey,<sup>4</sup> whom, so help me! I constantly miss whenever you are away from me. But especially on such days as to-day my eyes are eager for my Gaius, and wherever you have been to-day, I hope you have celebrated my sixty-fourth birthday in health and happiness. For, as you see, I have passed the climacteric common to all old men, the sixty-third year. And I pray the gods that whatever time is left to me I may pass with



Conrad Celtis

*Ad Wilhelmum Mommerlochum  
civem Coloniensem et philosophum*

Wilhelme Agrippae moenibus editus,  
per prisca nobis stemmata cognitus,  
Romana quae quondam tuae urbis  
gloria contulerat colonis

in urbe tecum hac condidici vagas  
inferre fraudes per συλλογιστικῶς  
nexus, quod et contentioso  
tradiderat dialectis ore.

primaque tecum hac prendideram sacros  
libros sophiae, tunc mihi cognitum  
Albertus et quid Thomas alti  
in physicis docuere rebus.

nemo hic Latinam grammaticam docet,  
nec ex politis rhetoribus studet,  
mathesis ignota est, figuris  
quidque sacris numeris recludit.

nemo hic per axem candida sidera  
inquirat, aut quae cardinibus vagis  
moventur, aut quid doctus alta  
contineat Ptolemaeus arte.

ridetur illic docta poemata,  
Maronianos et Ciceronios  
libros verentur tanquam Apella  
carne timet stomacho suilla.

hos inter unus tu nitidus sedes  
mathesin alto pectore comprobans  
et quod vetustas diligenti  
posteritatis amore scripsit.

Conrad Celtis

*An Wilhelm Mommerloch aus Köln,  
einen Philologen*

Freund Wilhelm, der du den Mauern von Köln entstammst,  
bekannt durch altherwürdigen Adel mir,  
den einst den Bürgern deiner Heimat  
römische Glorie verliehen hatte:

Hier hab mit dir zusammen ich einst gelernt,  
wie trüglich man verknüpft syllogistische  
Sophistereien und das Gezänke  
von dialektischen Künsteleien.

Hier las zuerst mit dir ich die heiligen  
Weltweisheitsbücher: hier auch ward mir bekannt, 10  
was Albert und der große Thomas  
über des Weltalls Natur dozierten.

Latein jedoch – Grammatik – lehrt niemand hier,  
es kümmert niemand sich um gepflegten Stil;  
was über Zahlen und Figuren  
Mathematik lehrt, ist unbekannt hier.

Am Himmel forscht hier keiner den Sternen nach,  
noch den Planeten, wie sie exzentrisch sich  
bewegen, noch was Ptolemäus  
uns in erhabener Weisheit lehrte. 20

Was heut Gelehrte dichten, wird hier verhöhnt,  
und für die Werke Ciceros und Vergils  
hat man den Abscheu, den ein Jude  
zeigt, den's vorm Fleische des Schweines ekelt.

Allein strahlst du hervor unter solchem Volk,  
der hochgemut die Mathematik du pflegst  
und das verehrst, was uns die Alten,  
liebend der Nachwelt gedenkend, schrieben.

**WHY SHOULD WE CARE?**

The task of aligning makes us

**CONNECT ALL EQUIVALENTS.**



This leads to

**DEEPER UNDERSTANDING AND CLOSER EXPERIENCE**

of both the source text and the target text as its equivalent.

**EXEMPLO DISCIMUS!**

More pragmatically,  
turn to our pedagogical advantage the fact that a lot of Greek  
and Latin is today read in translation,  
or with translation at hand.

Also,

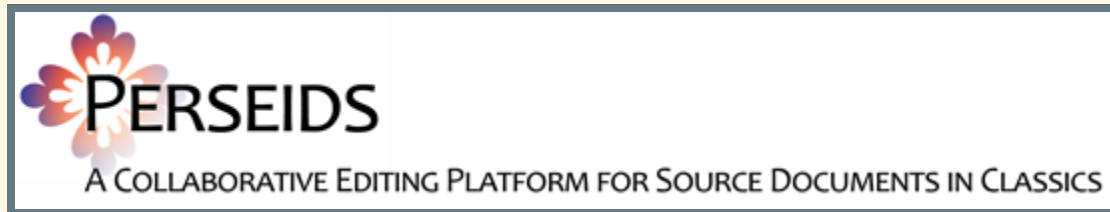
**CONTRIBUTE TO BUILDING  
A DIGITAL COLLECTION OF  
PARALLEL TEXTS**

(and thus help the machines help us read Greek and Latin)

**HOW DO WE DO IT?**



# USE PERSEIDS!



[perseids.org](https://perseids.org)

"New Text Alignment"



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New Text Alignment

Import Annotations

-New

Publication	Passage Text	Transcription Text (EpiDoc)	Translation Text (EpiDoc)	Text Annotations	Commentary Annotation	Treebank Annotation	Alignment Annotation
Greek Treebank Collection/201657/3	-	-	-	-	-	grafousi - parsing problems	-

**DEMONSTRATIONS**

# GREEK AND LATIN

Homer, the Iliad in Greek — and translated into Latin by  
Andreas Divus Iustinopolitanus, Venice 1537

Iustinopolis / Capodistria / Koper / Kopar /  
[www.wikidata.org/wiki/Q1015](http://www.wikidata.org/wiki/Q1015)

"Lie quiet Divus. I mean, that is Andreas Divus, In officina  
Wecheli, 1538, out of Homer."  
Ezra Pound, *Canto I* (1917)

# ILIAS HOMERI;

ANDREA DIVO IVSTINOPO.  
LITANO INTERPRETE,  
ad verbum translata.

ILIADIS. A. HOMERI  
COMPOSITIONIS.

'Alpha, preces Chrysaë, pestem exercitus, odium Regū'



RAM cane Dea Pelidæ Achillis  
Peritiosam: quæ infinitos Achiuis  
dolores inflixit  
Multas at fortes animas iſeris miſit  
Heroū, ipos at laniamta fecit canib⁹  
Auibusq; oībus. Iouis aut pſciebat

Ex quo sanè primū diuifi sunt contēdentes (volūtas  
Atridesq; Rex uirorum, et diuus Achilles.

Quis nam ipsos Deorum contētionē commisit pugnare?  
Latonæ, et Iouis filius. hic enim regi iratus

Morbū p exercitū suscitauit malū: peribant aut populi, Chryses  
sacerdos

Quoniam Chrysem inhonorauit sacerdotem

Atrides. hic enim uenit celeres ad naues Achiuorum,

Liberaturusq; filiam, ferensq; infinita dona;

Coronas habens in manibus longeiaculantis Apollinis

Aureo cum scepro: et obsecrabat omnes Achiuos.

Atridas autem maxime duos principes populorum.

Atridæq; et alij beneocreati Achiui,

Vobis quidem Dij dem cœlestes domos habentes

Expugnare Priami ciuitatem: bene uero domū reuertit.

Filiam autem mihi soluite dilectam: hæc dona accipite:

Venerantes Iouis filium longeiaculantem Apollinem.

Tunc alij quidem omnes laudauerunt Achiui

Reuerēdūq; esse sacerdotē et splēdida accipiēda dona.

# LATIN AND FRENCH

Hom. Il. 3

(Perseus, urn:cts:greekLit:tlg0012.tlg001.perseus-grc1:3)

Latin: [Andreas Divus, Venice 1537.](#)

French: [d'après Eugène LASSERRE, Homère, Iliade. Paris, Classiques Garnier, 1955. \(via Hodoi elektronikai\)](#)

# LATIN AND ENGLISH

Hom. Il. 3

(Perseus, urn:cts:greekLit:tlg0012.tlg001.perseus-grc1:3)

Latin: [Andreas Divus, Venice 1537](#).

English: Alexander Pope, [The Iliad](#) (1715).

# LATIN AND LATIN

Hom. Il. 3 (Perseus, urn:cts:greekLit:tlg0012.tlg001:3)

Latin: [Laurentius Valla, 1444.](#)

Latin: [Andreas Divus, Venice 1537.](#)



# DISCUSSION



# MODELLING TRANSLATION

WITH **RDF**

```
http://croala.ffzg.unizg.hr/ghlh/translation-source/10344
croala:wordform "λέγεις"@grc ;
saws:isDirectTranslationOf http://croala.ffzg.unizg.hr/ghlh/translation-source/10344
dcterm:isPartOf "10331" .

http://croala.ffzg.unizg.hr/ghlh/translation-source/10356
croala:wordform "πότερον"@grc ;
saws:isLooseTranslationOf http://croala.ffzg.unizg.hr/ghlh/translation-source/10356
dcterm:isPartOf "10331" .
```

# QUERYING RDF OF ALIGNED TEXTS

WITH SPARQL

Query: show all Croatian translation equivalents of *καὶ*, counting occurrences of each equivalent.

```
arq --data ghlh-rdf/ghlh-rdf.ttl --query kai4.rq

# contents of file kai4.rq:

SELECT ?hrvr (COUNT(?hrv) AS ?brhrvr)
WHERE
{
  ?id ?p "καὶ"@grc .
  ?id ?pp ?hrv .
  ?hrv c:wordform ?hrvr .
}
GROUP BY ?hrvr
ORDER BY ?brhrvr
```

A SPARQL query in file kai4.rq (using arq).

hrvr	brhrvr
"i"	59
"a"	6
"te"	4
","	2
"."	1
"A"	1
"I"	1
"No"	1
"djeda"	1
"drukčije"	1
"između"	1
"kako"	1
"naslonjaču"	1
"oca"	1

Result of SPARQL query from file kai4.rq.

**HOMEWORK**



Choose a sentence (preferably in Greek or Latin) and its translation (existing one, or the one you make yourself). Using Perseids ("New Text Alignment"), align words from the source with equivalents in the target. Submit to the *Zagreb Homer 2015* board for review and credit points.

