

Reading and Annotation Tools for Classical Languages

Bridget Almas LiLa Workshop June 3, 2019, Milan

Mission

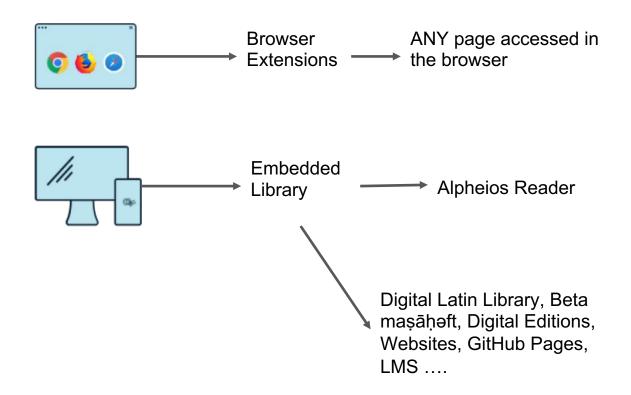
Alpheios builds evidence-based, open-source software to support worldwide study of classical languages and literatures.



Alpheios Features

- Lemma
- Morphology
- Short Definitions
- Full Definitions
- Grammar
- Inflection Tables
- Word Lists
- Usage Examples
 - Via PHI service
- Lemma Translations
 - Collatinus Data
- Treebank Diagrams*
 - Via Arethusa
 - *when available
- Translation Alignments*
 - *pending new UI

Alpheios Applications





Alpheios Browser Extensions

TITI LVCRETI CARI DE RERVM NATVRA LIBER PRIMVS

Aeneadum genetrix, hominum divomque voluptas, alma Venus, caeli subter labentia signa quae mare navigerum, quae terras frugiferentis concelebras, per te quoniam genus omne animantum concipitur visitque exortum lumina solis:

5
te, dea, te fugiunt venti, te nubila caeli adventumque tump, tibi suavis daedala tellus





TITI LVCRETI CARI DE RERVM NATVRA LIBER P

Aeneadum genetrix, hominum divomque voluptas, alma Venus, caeli subter labentia signa quae mare navigerum, quae terras frugiferentis concelebras, per te quoniam genus omne animantum concipitur visitque exortum lumina solis: te, dea, te fugiunt venti, te nubila caeli

adventumque tuun summittit flores, t placatumque nitet voluptas nam simul ac spec et reserata viget ge aeriae primum vol significant initum inde ferae pecudes et rapidos tranant te sequitur cupide denique per maria



frondiferasque domos avium camposque virentis omnibus incutiens blandum per pectora amorem efficis ut cupide generatim saecla propagent. 20 quae quoniam rerum naturam sola gubernas nec sine te quicquam dias in luminis oras exoritur neque fit laetum neque amabile quicquam, te sociam studeo scribendis versibus esse, quos ego de rerum natura pangere conor Memmiadae nostro, quem tu, dea, tempore in omni omnibus ornatum voluisti ovcolloro robus



voluptas: pleasure, delight, enjoyment;

voluptas

voluptas, atis

I.gen. plur. voluptatum and -tium), f.Gr. ἕλπω, to hope; root fελπ-; cf. volo, satisfaction, enjoyment, pleasure, delight (whether sensual or spiritual; syn. oblectamentum).

A. In gen.: "omne id, quo gaudemus, voluptas est, ut omne, quo offendimur, dolor," Cic. Fin. 1, 11, 37; cf.: "huic verbo (voluptatis) omnes qui Latine sciunt, duas res subiciunt, laetitiam in animo, commotionem suavem jucunditatis in corpore," id. ib. 2, 4, 13 sq.: "voluptas quae percipitur ex libidine et cupiditate (syn. jucunditas)," Cic. Verr. 2, 1, 21, § 57: "nulla capitalior pestis quam voluptas corporis," id. Sen. 12, 39: "ex tuis litteris cepi una cum omnibus incredibilem voluptatem," id. Fam. 5, 7, 1: "nec vero sum inscius, esse utilitatem in historia, non modo voluptatem, Quid? cum fictas fabulas ... cum voluptate legimus?" id. Fin. 5, 19, 51: "frui voluptatibus," id. N. D. 1, 30, 84 et saep.: "novum denique officium instituit a voluptatibus, an officer in the imperial household,"master of the revels, Suet, Tib. 42 fin.-

B. Personified, Voluptas, as a deity, Cic. N. D. 2, 23, 61.-

II. Transf.

A. Of persons, as a term of endearment: "mea voluptas," my joy, my charmer, Plaut. Truc. 2, 4, 2: "care puer, mea sera et sola voluptas," Verg. A. 8, 581.-

B. Voluptates, sports, shows, spectacles, given to the people, Cic. Mur. 35, 74: "ne minimo quidem temporis voluptates intermissae," Tac. H. 3, 83; Vop. Aur. 34; id. Prob. 19; Treb. Gall. 9 al.

c.The desire for pleasure, bent, passion: "suam voluptatem explere," Ter. Hec. 1, 1, 12; cf. Plaut. Am. prol. 19; cf. Gell. praef. § 14.-

D.The male semen, Arn. 5, 158; Hyg. Astr. 2, 13.

From A Latin Dictionary (Charlton T. Lewis, Charles Short, Oxford, Clarendon Press, 1879)



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adventumque tuun summittit flores, t placatumque nitet voluptas Define Inflect nam simul ac spec et reserata viget ge aeriae primum vol voluptas, voluptatis (very frequent) feminine noun: 3rd declension significant initum voluptas: pleasure, delight, enjoyment; inde ferae pecudes voluptas et rapidos tranant sing. nom. voc. te sequitur cupide Credits denique per maria

Examples

frondiferasque domos avium camposque virentis
omnibus incutiens blandum per pectora amorem
efficis ut cupide generatim saecla propagent.

quae quoniam rerum naturam sola gubernas
nec sine te quicquam dias in luminis oras
exoritur neque fit laetum neque amabile quicquam,
te sociam studeo scribendis versibus esse,
quos ego de rerum natura pangere conor

Memmiadae nostro, quem tu, dea, tempore in omni





















- A Noun is the name of a person, place, thing, or quality; as, Caesar, Caesar; Röma, Rome; penna, feather; virtūs, courage.
- Nouns are either Proper or Common. Proper nouns are permanent names of persons or places; as, Caesar, Röma. Other nouns are Common: as, penna, virtūs.
- 2. Nouns are also distinguished as Concrete or Abstract.
 - a) Concrete nouns are those which designate individual objects; as, mons, mountain;
 pēs, foot; dies, day; mens, mind.
 - Under concrete nouns are included, also, collective nouns; as, legiō, legion; comitātus, retinue.
 - b) Abstract nouns designate qualities; as, constantia, steadfastness; paupertas, poverty.

GENDER OF NOUNS.

13. There are three Genders,—Masculine, Feminine, and Neuter. Gender in Latin is either natural or grammatical.

Natural Gender.

- 14. The gender of nouns is natural when it is based upon sex. Natural gender is confined entirely to names of persons; and these are—
- 1. Masculine, if they denote males; as,-

nauta, sailor; agricola, farmer.

2. Feminine, if they denote females; as,-

māter, mother; rēgīna, queen.

Grammatical Gender.

15. Grammatical gender is determined not by sex, but by the general signification of the word, or the ending of its Nominative Singular. By grammatical gender, nouns denoting things or qualities are often Masculine or Feminine, simply by virtue of their signification or the ending of the Nominative Singular. The following are the general principles for determining grammatical gender:—

New Latin Grammar, by Charles E. Bennett. Copyright 1895; 1908; 1918.



CADI

16

(i)















et reserata viget genitabilis aura iavoni, aeriae primum volucris te, diva, tuumque significant initum perculsae corda tua vi. inde ferae pecudes persultant pabula laeta 15 et rapidos tranant amnis: ita capta lepore 14 te sequitur cupide quo quamque inducere pergis. denique per maria ac montis fluviosque rapacis frondiferasque domos avium camposque virentis omnibus incutiens blandum per pectora amorem efficis ut cupide generatim saecla propagent. 20 quae quoniam rerum naturam sola gubernas nec sine te quicquam dias in luminis oras exoritur neque fit laetum neque amabile quicquam

Inflection Tables

"voluptas" (voluptas)

Noun declension [-]

Expand

Declension Stem	F	First ā		Second o				Third (mutes, liquids, nasals, i)			
Gender		f.		/m.		n.	f.	/m.		n.	
Type	regular	irregular	regular	irregular	regular	irregular	regular	irregular	regular	irregular	
Singular											
Nominative	a	ē ,ēs ,ā ⁷	us ,er ,ir	,os ¹ ,ōs	um	us ¹⁰ ,on 7	•	os ,ōn ⁷	1		
Genitive	ae	āī ¹ ,ās ² ,ēs ⁷	Ī	ō ⁷	Ī		is		is		
Dative	ae	āī 1	ō		ō	c.	T	e 17	ī		
Accusative	am	ēn ,ān ⁷	um	om ¹ ,ōn	um	us ¹⁰ ,on 7	em	im ¹¹ ,a ⁷	1		
Ablative	ā	ād ⁵ ,ē ⁷	ō	Ōd ¹	ō		е	Ţ 11	е	Ţ 11	
Locative	ae		Ō		ō		e,ī		ī		
Vocative	а	ē,ā ⁷	e ,er ,ir	,T ⁸ ,Õs	um	on ⁷	•				
Plural											
Nominative	ae		ī	oe 7,9	а		ës	es 7	a	ia 11	
Genitive	ārum	um ³	Ōrum	um ,om ⁸	ōrum	um	um	ium ¹¹ ,ōn ⁷	um	ium ¹¹	
Dative	Īs	ābus ⁴ ,eis ⁶	Īs		Īs		ibus		ibus		
Accusative	ās		Ōs		a		ës	īs 11 ,as 7	a	ia ¹¹	
Ablative	Ts	ābus 4	Ts		Ts		ibus		ibus		

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25
Memmiadae nostro, quem tu, dea, tempore in omni

ac recessum circumspicere, obsecro uos, uenandi studium ac uoluptas homines per niues ac pruinas in montes siluasque rapit:

Liv.AUC.5.4.4.3 Titus Livius Ab Urbe Condita 5

Liv.AUC.5.6.3.1 Titus Livius Ab Urbe Condita 5

nec emolumentum ferme sine impensa opera est. labor uoluptas que, dissimillima natura, societate quadam inter se

Lucr.DRN.1.140 Titus Lucretius Carus De Rerum Natura 1

et rerum novitatem; sed tua me virtus tamen et sperata voluptas suavis amicitiae quemvis efferre laborem suadet et inducit

Lucr.DRN.1.1 Titus Lucretius Carus De Rerum Natura 1

LIBER PRIMVS Aeneadum genetrix, hominum divomque voluptas, alma Venus, caeli subter labentia signa quae mare

Lucr.DRN.2.3 Titus Lucretius Carus De Rerum Natura 2

spectare laborem; non quia vexari quemquamst iucunda voluptas, sed quibus ipse malis careas quia cernere suavest, suave

Pl.Am.637 Titus Maccius Plautus Amphitruo 637

nam ego íd nunc expérior domo átque ipsa dé me sció, cui volúptas parúmper datást, dum virí mei míhi potéstas vidéndi fuit

Pl.Am.994 Titus Maccius Plautus Amphitruo 994

hortor, adsto, admoneo, gaudeo, si quid patri volup est, voluptas ea mi multo maxumast, amat; sapit; recte facit, animo

Pl.As,664 Titus Maccius Plautus Asinaria 664

Phil. Da, meus ocellus, mea rosa, mi ánime, mea voluptas, Leonida, argentum mihi, ne nos diiunge amantis.

VMax.Mem.9.1.2.14 Valerius Maximus Facta et Dicta Memorabilia 9

inde infusae culinis arcae censibusque edendi ac bibendi uoluptas reperta. Vrbi autem nostrae secundi Punici belli finis

Vell. Hist. 2.21.4.4 Velleius Paterculus Historia Romana 2

pestilentia, Cn. Pompeius decessit. Cuius interitus uoluptas amissorum aut gladio aut morbo ciuium paene damno

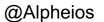
Zeno.Tract.1.35.5.6 Zeno of Verona Tractatus 1

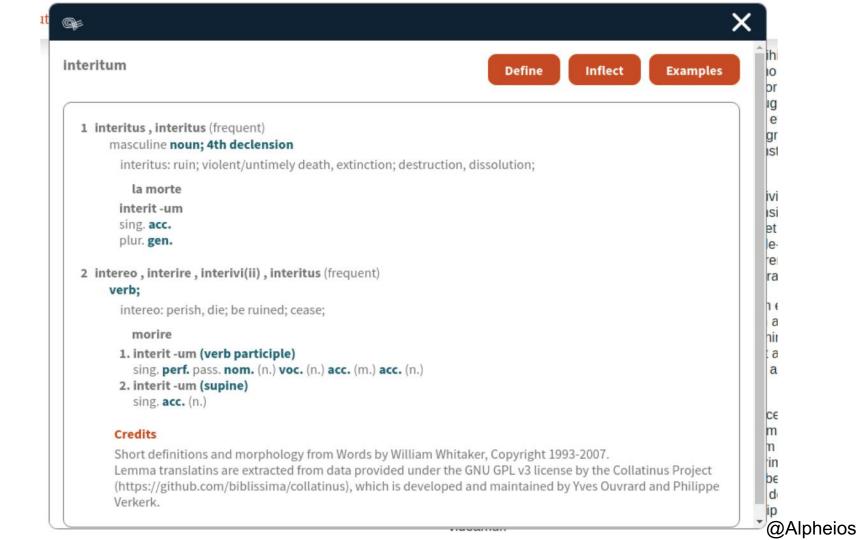
dei metus in ecclesia continet, sed tamen eos mundana uoluptas ad se trahit. Impii non manent, quia his dei nomen in

Zeno.Tract.1.1.20.8 Zeno of Verona Tractatus 1

bono puritatis uoluntatem ipsam paris, quia uoluntas fit uoluptas postmodum tua, cum per eam cotidie tricenos, sexagenos

Word usage examples are provided by The Packard Humanities Institute (https://packhum.org/). They are to be used only for personal study and are subject to the "Fair Use" principles of U.S. Copyright law.





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inda fanaa maaydaa manayltant mahyla laata



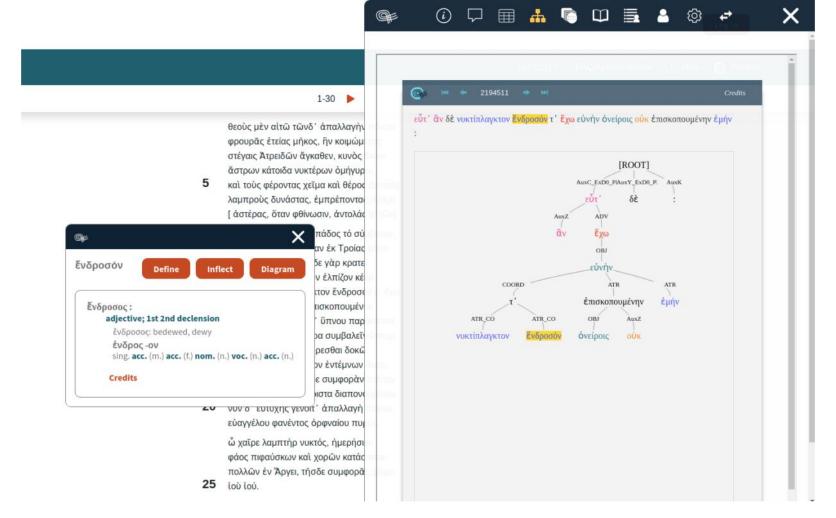








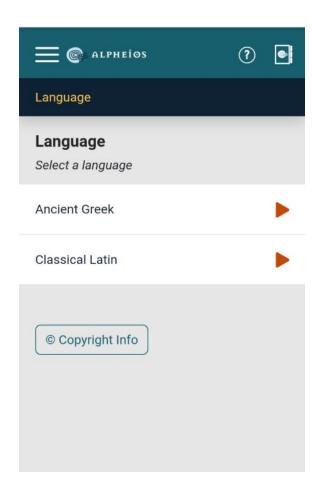




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Alpheios Reader















De Bello Civili - Caesar, Julius

1.1.1-1.7.8



COPY SHARE SELECT ALL

redditis aegre ab his impetratum est summa tribunorum plebis ntentione ut senatu recitarentur; ut vero ex litteris ad senatum referretur, impetrari non potuit.

referunt consules de re publica infinite. L.



impetro, impetrare, impetravi, impetratus (frequent)

verb; 1st conjugation

obtain/procure (by

possum, posse, potui, - (very frequent)
verb; irregular conjugation

possum: be able, can; [multum
posse => have much/more/most
influence/power];

potu-it

3rd person sing. **perf. ind.** act.

Credits

🚨 🛜 💯 📶 46% 🖺 12:04 PM

Close Panel For Full Screen

O De Bello Civili - Caesar, Julius

1.1.1-1.3.5



··· Litteris a Fabio C. Caesaris consulibus redditis aegre ab his impetratum est summa tribunorum plebis contentione ut in senatu recitarentur; ut vero ex litteris ad senatum referretur, impetrari non potuit.

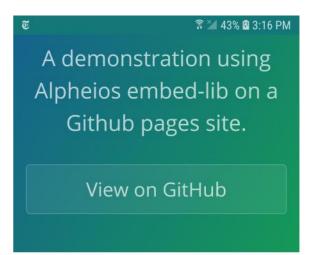
referunt consules de re publica infinite. L. Lentulus consul senatu rei publicae se non defuturum pollicetur, si audacter ac fortiter sententias dicere velint;



Embedded Library

Embedding site can customize:

- Branding (colors, fonts, etc.)
- Positioning/anchoring of UI
- Event triggers and callbacks
- Preferred dictionaries and other resources*
 - *pending interest in this feature



Arma virumque canō,
Trōiae quī prīmus ab ōrīs
Ītaliam, fātō profugus,
Lāvīniaque vēnit
lītora, multum ille et
terrīs iactātus et altō
vī superum saevae
memorem lūnōnis ob



Arma virumque canō,
Trōiae quī prīmus ab ōrīs
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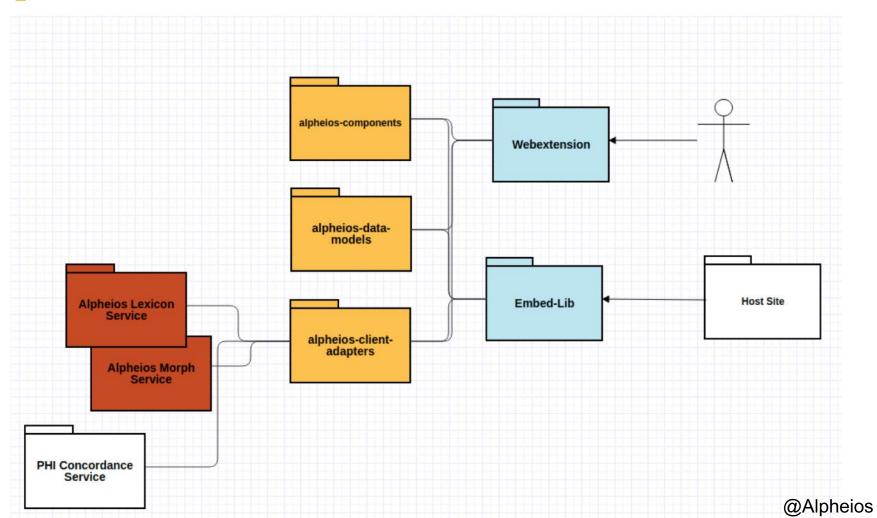
n multus, multa, -,
plurimus (very frequent)
adjective; 1st declension

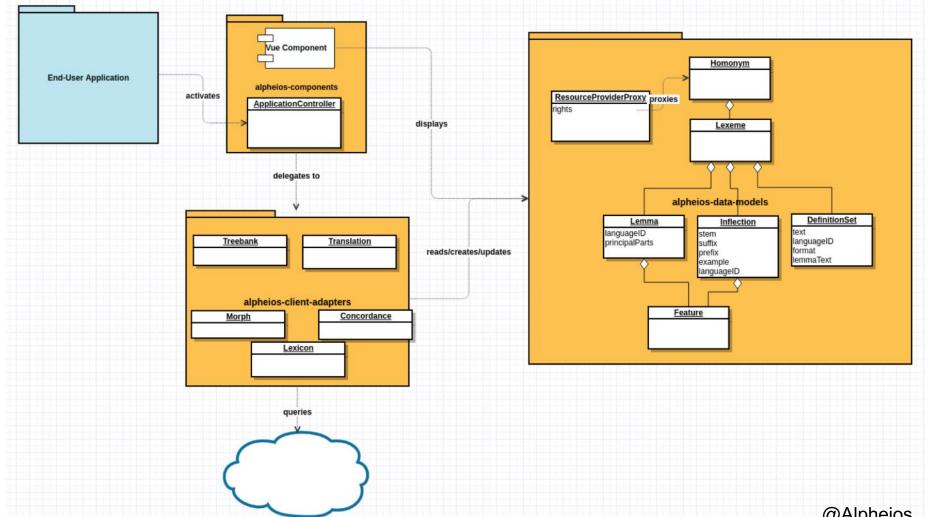
multus: much, many, great, many a; large,



Supporting Resources

- Ancient Greek Tutorials
- Auth0
- Beta maṣāḥəft
- CapiTainS
- The Center for the Advanced Study of Language (CASL) at the University of Maryland, College Park
- Collatinus
- The Digital Latin Library
- LASLA (not yet but soon...)
- The Packard Humanities Institute
- The Perseids Project at Tufts University
- The Perseus Digital Library at Tufts University
- The Perseus Latin and Ancient Greek Dependency Treebanks
- QAMUS LLC
- The Roshan Institute for Persian Studies at University of Maryland, College Park
- Whitaker's Words





Alpheios Client Adapters Library

Configuration files

adapters-config.json

- category
 - adapterName
 - adapterFunc
 - methods
 - params

Name	Type	Description			
category	String	This is a group of adapters by aim: morphology, lexicon, lemmatranslation			
adapterName	String	This is a adapter inside category group			
adapterFunc	String	This is a method name for current adapter inside ClientAdapters			
methods	[String]	This is an array with available methods for current adapter. If a given method is not registered here, than it would be ignored			
params	[String : [String]]	This is an array of parameters for the given method, if parameter is not regestered it won't be checked			

Example:

```
"morphology": {
    "tufts": {
        "adapter": "maAdapter",
        "methods": [ "getHomonym" ],
        "params": {
            "getHomonym" : [ "languageID", "word" ]
        }
    }
}
```



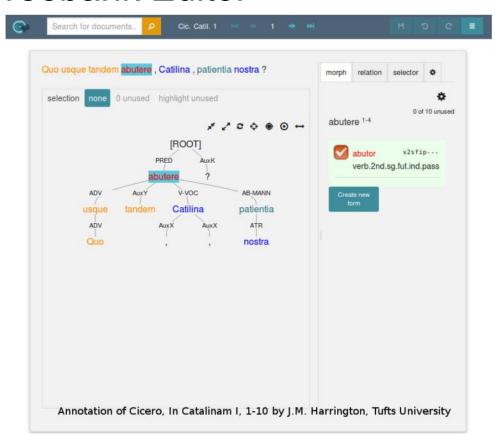


Alpheios Annotation Tools

Alignment Editor



Arethusa - Treebank Editor



Roadmap

- Alpheios 3.0 Reader + Embedded Library + Browser Extensions
 - Currently in Beta
 - Redesigned UI with Mobile support, User wordlists, Latin usage examples

Near Future

- Localized User Interface
- Textual annotations and commentary
- Leveraging LASLA data for pedagogical games
- Arabic improvements
- Additional Linked Resources
- Alignment Editor Rewrite
- Audio Alignment Editor
- O ..

Long Term Goals

- Individual Difference Measures
- Dynamic User Proficiency Maps
- Continuous comparison of learning interventions over time
- Linking intervention data with intervention customization
- Additional Languages
- ...

Linked Resource Wishlist

- Neural net parsers
- Treebanks
- Aligned Translations
- Wordnet integration
- Gazetteers
- Corpus-based wordlists
- Audio alignments
- Images of manuscripts
- Additional grammars and dictionaries

Mobile Reader Beta

- Looking for user feedback on the responsive UI
- Let us know if you want to participate

Thank you!

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support@alpheios.net

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