

TEXTUAL VISUALIZATION & ANALYSIS IN GREEK, LATIN & BEYOND

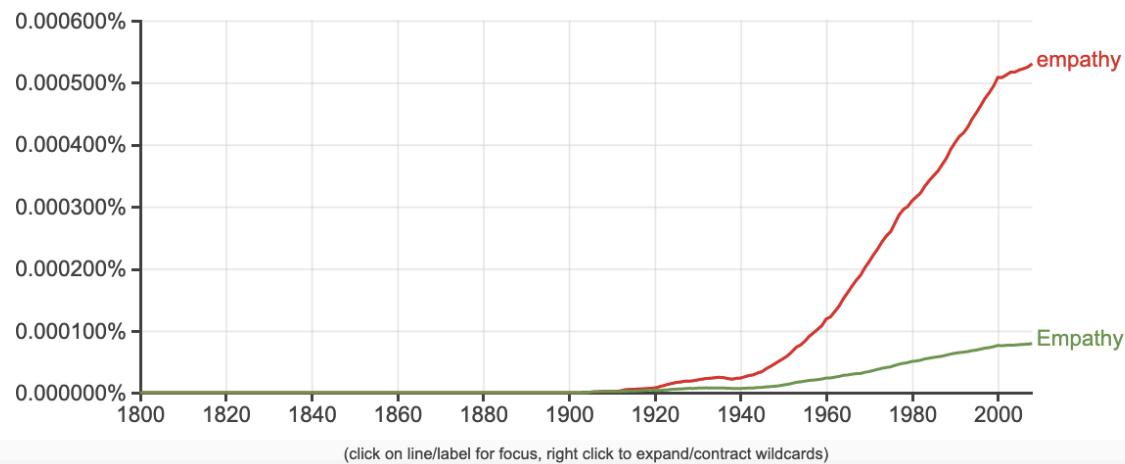
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Department of Classics
University of Florida

SunoikisisDC Digital Classics
Summer Semester
June 18th, 2020

Google Books Ngram Viewer

Graph these comma-separated phrases: empathy case-insensitive

between 1800 and 2008 from the corpus English (2012) with smoothing of 7



- **Textual analysis** is a methodology that involves understanding language, symbols, and/or pictures present in texts to gain information regarding how people make sense of and communicate life and life experiences. Visual, written, or spoken messages provide cues to ways through which communication may be understood.

SOCIETY AND TEXTUAL ANALYSIS





International Journal of Communication 10(2016), 1167–1193

1932-8036/20160005

**Hate Speech and Covert Discrimination on Social Media:
Monitoring the Facebook Pages of Extreme-Right Political Parties in Spain**

ANAT BEN-DAVID¹

The Open University of Israel, Israel

ARIADNA MATAMOROS-FERNÁNDEZ

Queensland University of Technology, Australia

This study considers the ways that overt hate speech and covert discriminatory practices circulate on Facebook despite its official policy that prohibits hate speech. We argue that hate speech and discriminatory practices are not only explained by users' motivations and actions, but are also formed by a network of ties between the platform's policy, its technological affordances, and the communicative acts of its users. Our argument is supported with longitudinal multimodal content and network analyses of data extracted from official Facebook pages of seven extreme-right political parties in Spain between 2009 and 2013. We found that the Spanish extreme-right political parties primarily implicate discrimination, which is then taken up by their followers who use overt hate speech in the comment space.

POLITICS OF LANGUAGE

Text analysis & visualization

www.wordsift.com

<https://www.jasondavies.com/wordcloud/#>

<http://www.online-utility.org/text/analyzer.jsp>

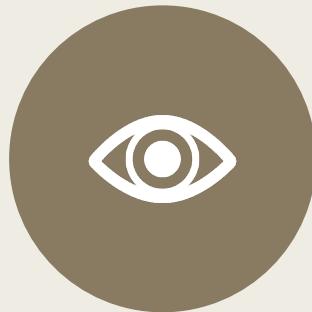
www.infranodus.com

<http://voyant-tools.org/tool/Bubbles/>

References



[THE HISTORIAN'S
MACROSCOPE: BIG DIGITAL
HISTORY](#)



[INTRODUCTION TO
VISUALIZATION](#)



[PRACTICAL ISSUES IN
VISUALIZATION](#)

1001 'GREATEST' MOVIES OF ALL TIME

Number of characters (including spaces) :	17450
Number of characters (without spaces) :	13479
Number of words :	2841
Lexical Density :	53.6079
Number of sentences :	48
Number of syllables :	4494

Some top phrases containing 7 words (without punctuation marks)	Occurrences
harry potter and the deathly hallows part	2

Some top phrases containing 6 words (without punctuation marks)	Occurrences
the lord of the rings the	3
the girl with the dragon tattoo	2
potter and the deathly hallows part	2
of the planet of the apes	2
harry potter and the deathly hallows	2

Some top phrases containing 5 words (without punctuation marks)	Occurrences
once upon a time in	3
the lord of the rings	3
lord of the rings the	3
the girl with the dragon	2
girl with the dragon tattoo	2
potter and the deathly hallows	2
harry potter and the deathly	2
how to train your dragon	2
of the planet of the	2
and the deathly hallows part	2
the planet of the apes	2

Some top phrases containing 3 words (without punctuation marks)	Occurrences
harry potter and	4
potter and the	4
planet of the	3
the rings the	3
the man who	3
a time in	3
once upon a	3
lord of the	3
of the rings	3
star wars episode	3
of the apes	3
the lord of	3
upon a time	3
of the planet	3
girl with the	3
to train your	3
dawn of the	3
indiana jones and	3
the hole the	3
jones and the	3
of the dead	3
with the dragon	3
night of the	3
the planet of	2
the girl with	2
the dark knight	2
the wind the	2
life and death	2
and the deathly	2
the curse of	2
and the beast	2
return of the	2
deathly hallows part	2
kill bill vol	2
the wrath of	2
train your dragon	2
how to train	2
the dragon tattoo	2
the deathly hallows	2
beauty and the	2
curse of the	2

Some top phrases containing 4 words (without punctuation marks)	Occurrences
harry potter and the	4
of the rings the	3
upon a time in	3
the lord of the	3
once upon a time	3
lord of the rings	3
planet of the apes	3
the planet of the	2
of the planet of	2
the girl with the	2
girl with the dragon	2
beauty and the beast	2
potter and the deathly	2
indiana jones and the	2
how to train your	2
with the dragon tattoo	2
the deathly hallows part	2
and the deathly hallows	2
the curse of the	2
to train your dragon	2

Most frequent words in the corpus:

man (24);
day (10);
life (10);
night (10);
dead (8)

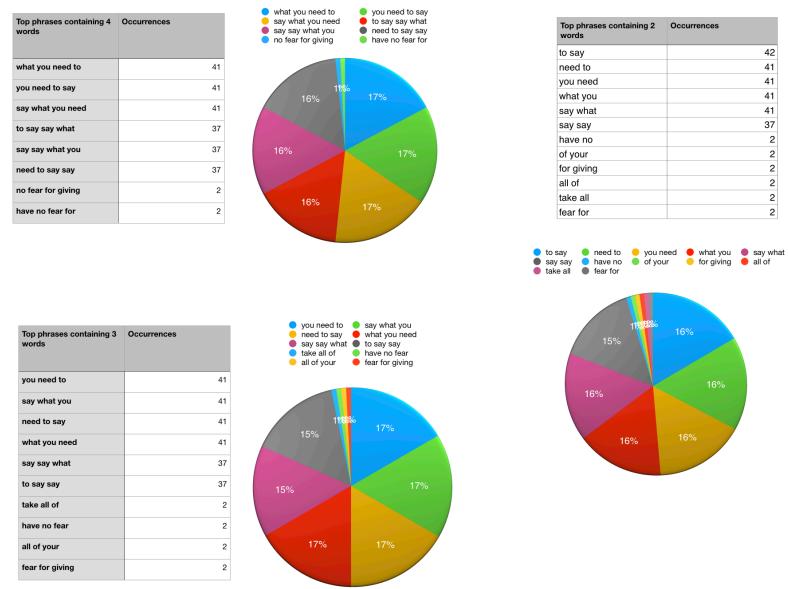
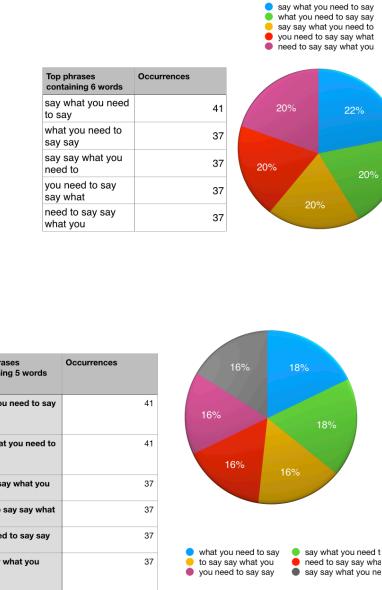
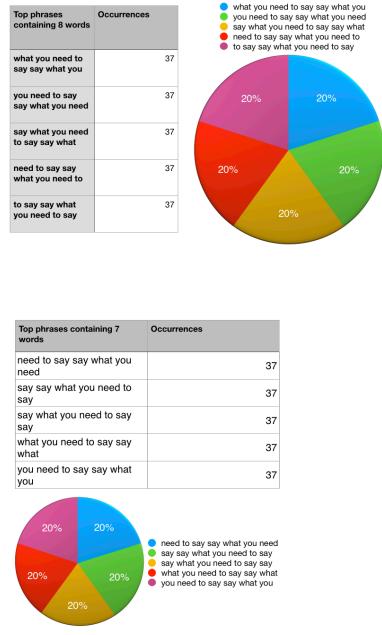
Genres Analysis



action (125) adventure (142) animation (57) biography (86)
comedy (223) crime (205) drama (706) family (70)
fantasy (84) fi (81) film (26) history (58) horror (52) musical (66) mystery (99)
romance (201) sci (81) thriller (227) war (85) western (32)

Order	Unfiltered word count	Occurrences	Percentage
1.	drama	706	26.6818
2.	thriller	227	8.5790
3.	comedy	223	8.4278
4.	crime	205	7.7475
5.	romance	201	7.5964
6.	adventure	142	5.3666
7.	action	125	4.7241
8.	mystery	99	3.7415
9.	biography	86	3.2502
10.	war	85	3.2124
11.	fantasy	84	3.1746
12.	sci_fi	81	3.0612
13.	family	70	2.6455
14.	history	58	2.1920
15.	animation	57	2.1542
16.	horror	52	1.9652
17.	musical	36	1.3605
18.	western	32	1.2094
19.	music	30	1.1338
20.	film_noir	26	0.9826
21.	sport	21	0.7937

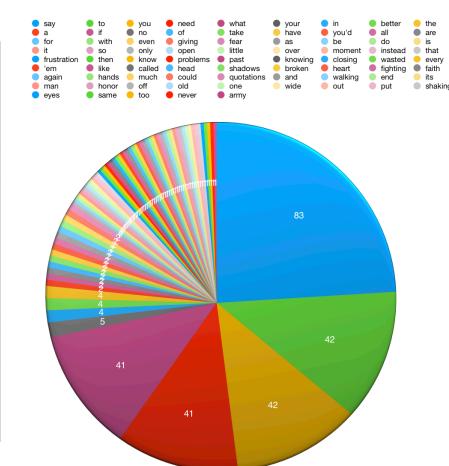
Say What you need to say:

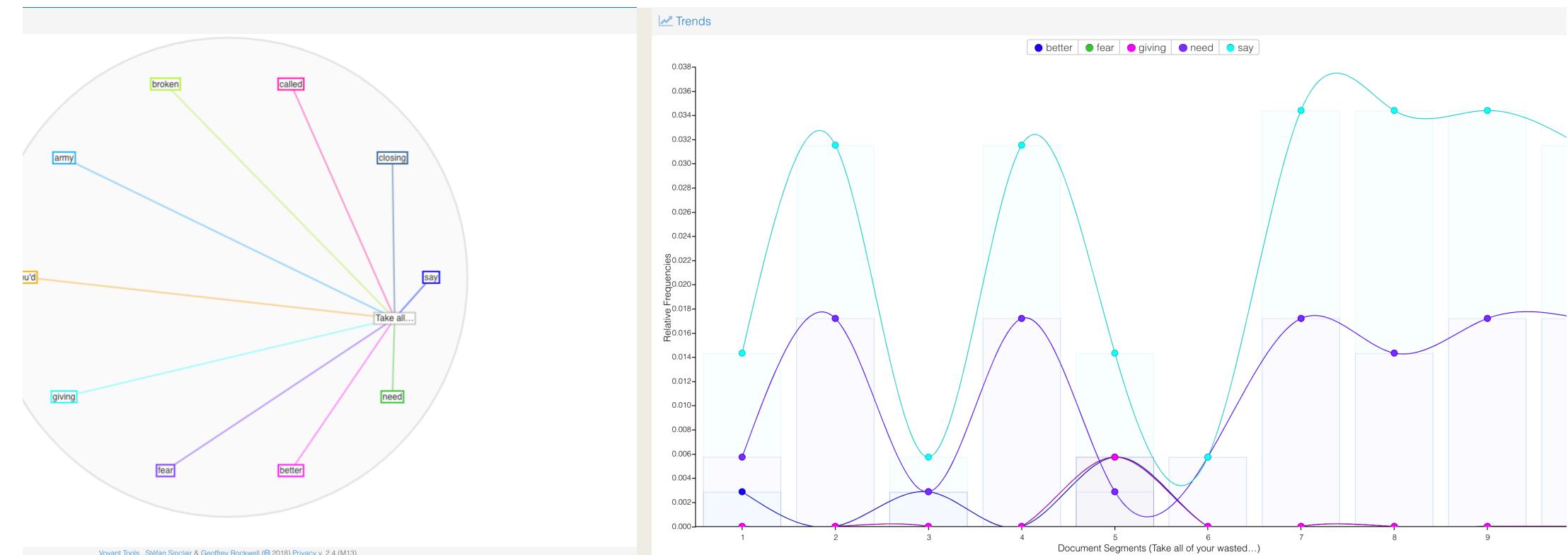


Word Count: 349

Data:

Word count:	349
say	83
to	42
you	42
need	41
what	41
your	5
in	4
better	4
the	4
a	2
if	2
no	2
of	2
take	2
have	2
you'd	2
all	2
are	2
for	2
with	2
even	2
giving	2
fear	2
as	1
be	1





SAY WHAT
YOU NEED
TO SAY:

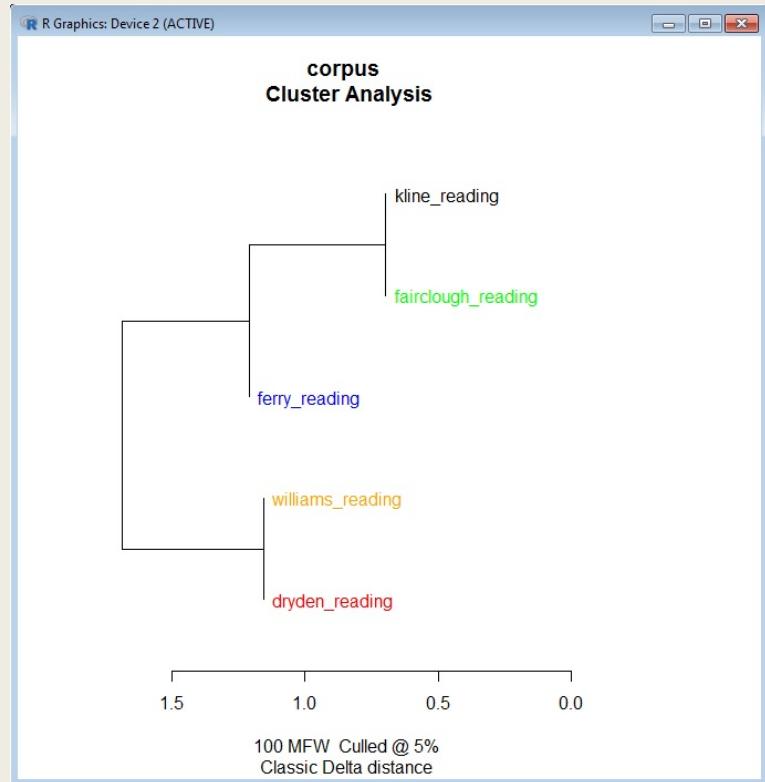
Add Texts

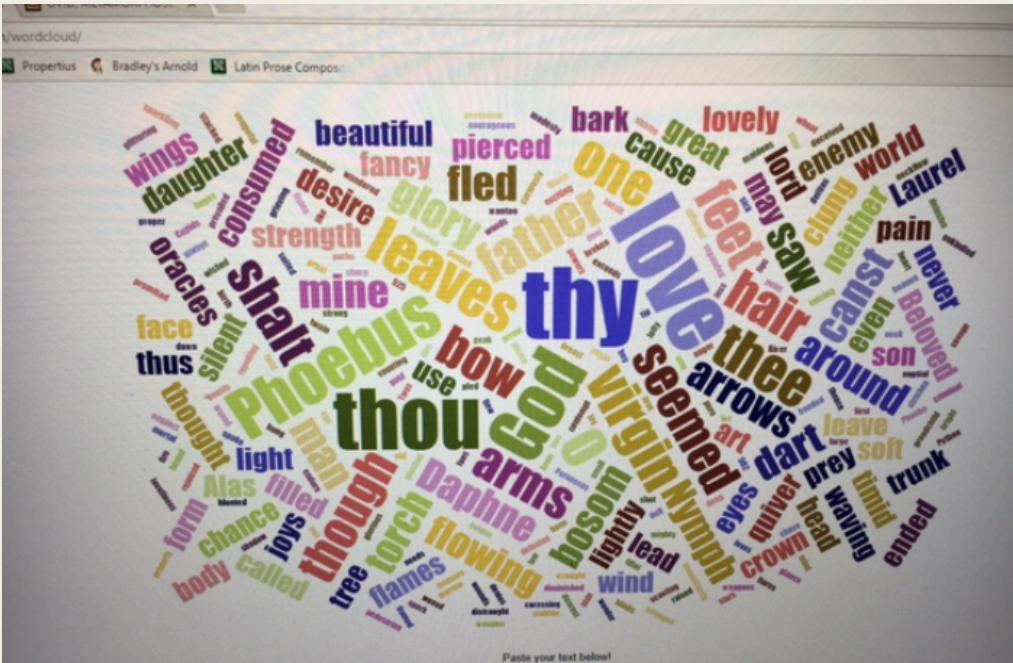
Type in one or more URLs on separate lines or paste in a full text.

TREEBANKING & TEXTUAL ANALYSIS



TRANSLATIONS “FAITHFUL” TO THE ORIGINAL





CLASSICS & THE #METOO MOVEMENT

Figure 2

	Curtius Rufus	Historia Augusta	Livy	Nepos	Sallust	Suetonius	Tacitus
"et"	2.47344885410844	3.72309482257126	1.57179019250015	0.719424460431655	1.14253605544109	3.04505179083989	3.18773234200743
"in"	1.97037451089994	2.32693426410704	2.02507800082416	2.97362110311751	2.09777111818693	1.95931611131911	1.98884758364312
"ad"	1.02012297372834	1.04712041884817	1.22446576794019	0.863309352517986	0.599363176624836	0.985897915886684	0.817843866171004
"cum"	0.838457238680827	1.14407601318596	1.1655972214046	1.96642685851319	0.814759318224387	0.623986022713091	0.436802973977695
"ut"	0.62884292901062	1.27981384525887	1.04197327367987	1.00719424460432	0.271586439408129	1.19805316360914	0.817843866171004
"est"	0.447177193963108	0.950164824510374	0.665214575852122	0.815347721822542	0.721108821876756	0.661425184075877	0.232342007434944
"non"	0.9083286752773068	0.681926950020604	0.863309352517986	0.412062183929575	0.636465743167353	0.613382899628253	
"sed"	0.61486864169927	0.25269340416704	0.317890151292165	0.383693045563549	0.936504963476306	0.449269936353426	0.511152416356877
"qui"	0.614868641699273	0.542951328291642	0.523930064166716	0.52757793764988	0.533807829181495	0.349432172719331	0.399628252788104
"se"	0.489100559741	0.681926950020604	0.541590628127392	0.719424460432	0.280931489042892	0.04894505821015	0.329278810408922
"ex"	0.349357182785678	0.29086678301338	0.612232883970095	0.4661534563549	0.162534172662	0.4735	0.269516728624535
"ac"	0.307434320849637	0.29086678301338	0.470948372284688	0.287769784172662	0.252856340138693	1.12317484088356	0.455390334572491
"quam"	0.558971424581	0.40139111811587	0.482722081591806	0.49616386954436	0.655553474433414	0.424310495444902	0.399628252788104
"atque"	0.181665735047513	0.407213496218132	0.247247895449461	0.477170716356804	0.491473	0.473	0.16728624535316
"quod"	0.335382895472331	0.833818111305022	0.417966680402661	0.51757793764988	0.462534172662	0.3201723403117	0.427509293680297
"a"	0.614868641699273	0.77564154702346	0.229587331488786	0.383693045563549	0.280951489042892	0.698864345438662	0.399628252788104
"per"	0.167691447736165	0.69808079232112	0.259021604756579	0.69816386954436	0.448157352853864	0.519168998732	0.511152416356877
"ab"	0.125768505802124	0.271475664145821	0.641667157237888	0.199675527268189	0.519168998732	0.511152416356877	0.1646840149
"quae"	0.32140864815934	0.3640258483615	0.276682168717254	0.431654676258993	0.524442779546732	0.199675527268189	0.4182156133829
"erat"	0.586920067076579	0.116346713205352	0.388532407134868	0.239808153477218	0.552537928451021	0.149756645451142	0.16728624535316
"neque"	0.0419228619340114	0.0	0.141284511685406	0.335731414868106	0.861584566398202	0.311993011356546	0.520446096654275
"de"	0.0558971424581	0.771719309967	0.182492494260317	0.479616306954436	0.533807829181495	0.374391613627855	0.269516728624535
"si"	0.321408608160984	0.368431258483615	0.29434273267793	0.575539568345324	0.383967035025286	0.0998377636340946	0.353159851301115
"aut"	0.139742873113471	0.135737832072911	0.188379348913875	0.0959232613908873	0.533807829181495	0.299513290902284	0.455390334572491
"etiam"	0.349357182783678	0.484777971688966	0.217813622181668	0.143884892086331	0.103015545982394	0.661425184075877	0.204460966542751
"esse"	0.586920067076579	0.271475664145821	0.382645552481309	0.239808153477218	0.252856340138603	0.124797204542618	0.111524163568773
"ne"	0.349357182783678	0.252084545278263	0.25313475010302	0.335731414868106	0.177935943060498	0.386871334082117	0.306691449814126
"nec"	0.335382895472331	0.349040139616056	0.441514099016895	0	0.311993011356546	0.204460966542751	
"quo"	0.265511458915595	0.271475664145821	0.259021604756579	0.575539568345324	0.271586439408129	0.237114688630975	0.25092936802974
"eius"	0.335382895472331	0.368431258483615	0.1707187849532	0.383693045563549	0.159205843790972	0.336952452265069	0.260223048327138

— "This seems to show that as Latin aged the use of et rather than asyndeton or comparable conjunctions increased among prose authors. Some other notable discrepancies include:

Sallust's much rarer use of ut (explained by his regular use of quo to introduce a purpose clause), Tacitus' high use of aut, and the Historia Augusta's low use of quam."

STYLOMETRY

history

- Lorenzo da Valla in 1439

The Donation of Constantine (Latin: *Donatio Constantini*) is a forged Roman imperial decree by which the 4th century emperor Constantine the Great supposedly transferred authority over Rome and the western part of the Roman Empire to the Pope. Composed probably in the 8th century, it was used, especially in the 13th century, in support of claims of political authority by the papacy.

The basics of stylometry were set out by Polish philosopher Wincenty Lutosławski in *Principes de stylométrie* (1890)

References-Case Studies

Authorship of
Ronald
Reagan's Radio
Addresses

“Double
Falsehood”

Tools for Stylometry



[The Style of
Numbers behind a
Number of Styles](#)



[Making Hit Music
into Science](#)



[Forensic
Linguistics](#)



[Forensic Analysis
of Instant
Messaging](#)



[Deception in
Instant Messaging](#)



Stylometric parameters



methodologies

- Neural Networks (70% of precision)
- Genetic Algorithms
- Rare Pairs (based on collocation)

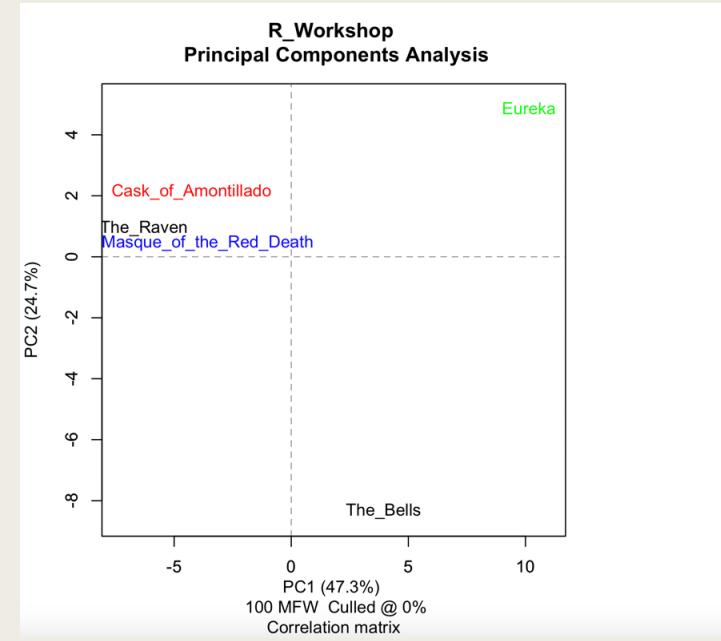
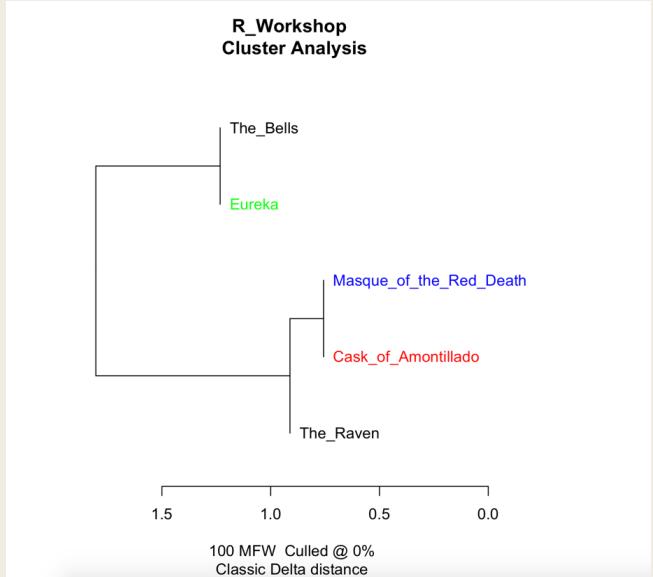
Software for stylometry

JAVA Graphical Authorship Attribution program

The Signature Stylometric System

Stylene (a stylometric system for Dutch)

Stylo



EDGAR ALLAN POE

Stylo

Instructions: How to set up R and stylo

- R is a programming environment for computations, analysis, and statistics of data. It provides functions to parse data, store them as variables or arrays, and perform calculations.
- Download R for your operating system
- <https://cran.cnr.berkeley.edu/>
- If you use Mac, you need also the following
- <http://www.xquartz.org/>
- Open R and type
- `install.packages("stylo")`
- Activate the package (whenever you start a fresh R session):

Stylo

- library(stylo)
- A manual to stylometry using "stylo" is available [here](#).
- Setting working Directory
- 1) through the menu
- In *Windows*: go to the *File* menu, select *Change Working Directory*, and select the appropriate folder/directory
- In *Macs*: go to the *Misc* menu, select *Change Working Directory*, and select the appropriate folder/directory

Stylo

- Inside your Working Directory create a folder “corpus”
- In the “corpus” folder create at least 2 text files with the documents you want to analyze.
- In Windows, open Notepad
- In Mac, open text edit
- Go to text edit preferences and make sure “plain text” is selected under new document tab.
- Create a new document and paste some content.

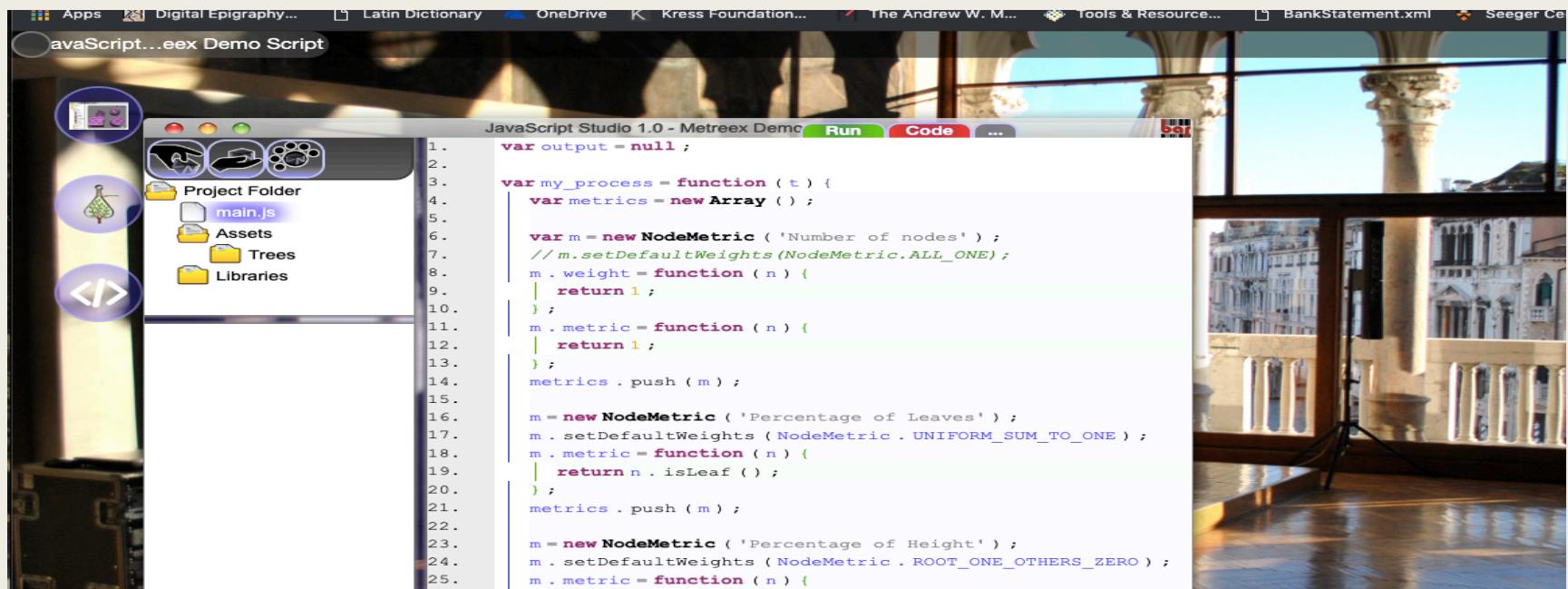
A LANGUAGE IS NOT JUST WORDS. IT'S A CULTURE, A TRADITION, A UNIFICATION OF A COMMUNITY, A WHOLE HISTORY THAT CREATES WHAT A COMMUNITY IS. IT'S ALL EMBODIED IN A LANGUAGE.

Noam Chomsky

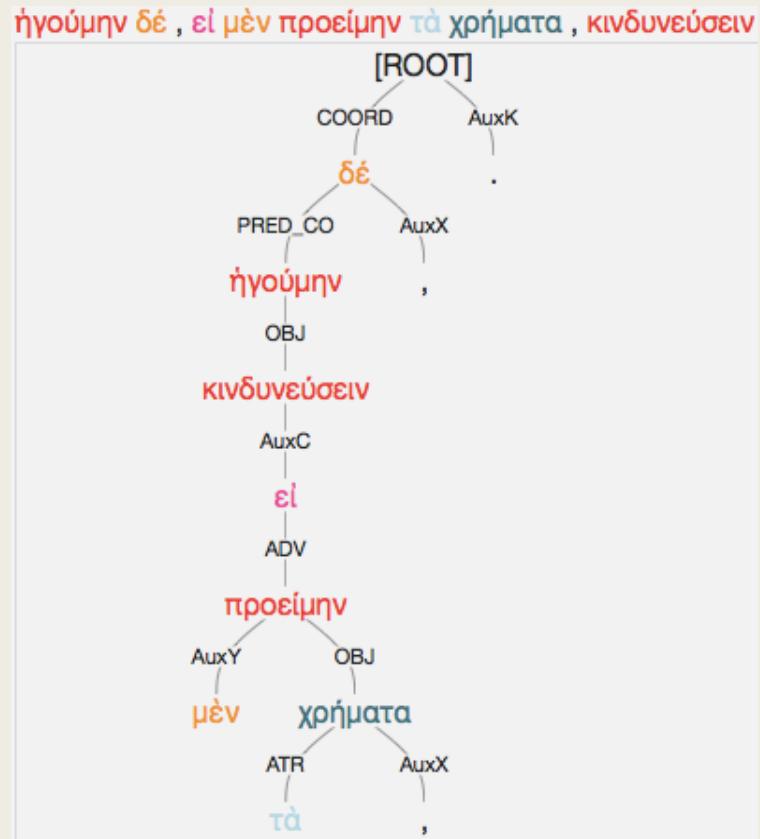


KULTURGRENZEN VS. LANDESGRENZEN

Customized metrics



www.perseids.org



synopsis

- 1. Definitions of Hellenism and Atticism
- 2. Computational analysis and quantification of Atticism
- 3. Philological readings of the numeric results and socio-cultural interpretations

Greek & Attic: language(s) or culture(s)

- Speech is then constructed of these; for the beginning of the word is **speaking proper Greek**. (*Arist. Rhet.* 1407a.19-1407a.20)
- There is one Hellas, but many cities: **you speak Attic**, whenever you utter a phrase, some of you there, but we **Hellenes speak Hellenic**. Why do you, occupying yourself with syllables. and letters, drag your lively wit into unpleasantness? (*Posidippus fr. 28*)

Greek & attic: language(s) or culture(s)

- Attic writers [write] *deiknusi* ["they demonstrate"] with a contraction; *Hellenes deiknuesin*. And the **secondary Attic writers** [write] *deinuasi*. (Moeris 194.29)
- Attic speakers [write] *zeugnusin* ["they join"] in the plural with a contraction; **Hellenes** [write] *zeugnuesin*. And it is *zeugnuasin* in **secondary Attic**. (Moeris 197.28)
- *pluneis* ["clothes-cleaners"] in **primary Attic**, *knapheis* in **secondary Attic**. (Moeris 208.15)

Greek & latin: languages or cultures

- kakodaimonein [“to be unhappy”]: this is how **fake Atticizers** speakers use the word, for **Athenians** says kakodaimonan, on account of the alpha. (Phrynicus 54)

Dionysius Halicarnassus

- We ought to acknowledge a great debt of gratitude to the age in which we live, my most accomplished Ammaeus, for an improvement in certain fields of serious study, and especially for the considerable revival in the practice of civil oratory. In the epoch preceding our own, the old philosophic Rhetoric was so grossly abused and maltreated that it fell into a decline. From the death of Alexander of Macedon it began to lose its spirit and gradually wither away, and in our generation had reached a state of almost total extinction... I think that the cause and origin of this great revolution has been the conquest of the world by Rome, who has thus made every city focus its entire attention upon her. (Dion. Hal. *Orat.Vett.* 1-3. Trans. Usher)

Federalist papers

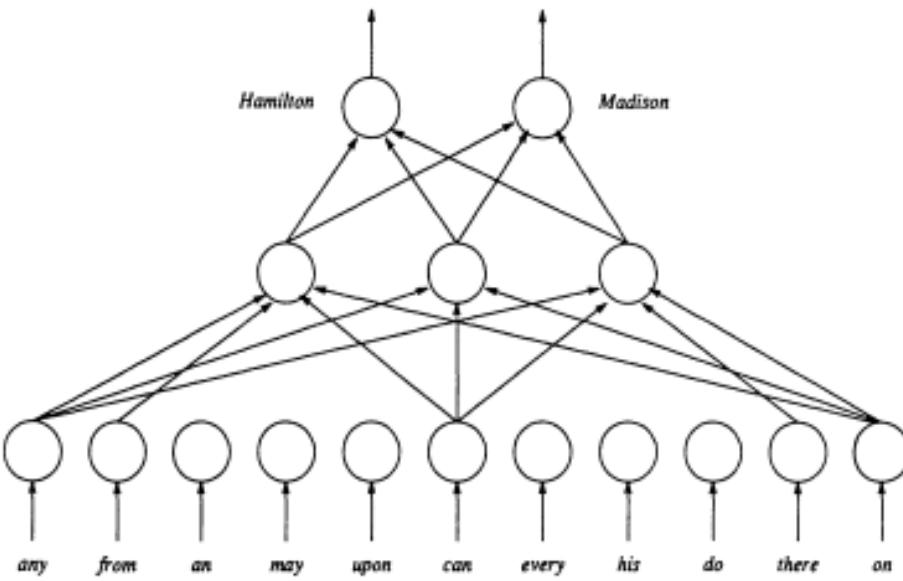


Figure 3. Structure of the Federalist neural network.

Tweedie, F., Singh, S., & Holmes, D. (1996). Neural Network Applications in Stylometry: The "Federalist Papers". *Computers and the Humanities*, 30(1), 1-10. Retrieved from <http://www.jstor.org/stable/30204514>

Computational Syntactical analysis

```
nsubj(easy-4, Nothing-1)
cop(easy-4, is-2)
advmod(easy-4, so-3)
```

```
#c #0 #D # #o #oi #oio #oioj #oio #oijoS #oijoF #oijoja #oijo
#oigr #oigR #oig #oigq #oigo #oigoj #r .
```

Hollingsworth, C. (2014). “Using Dependency-Based Annotations for Authority Identification.” In Sojka, P. (2014). Text, speech and dialogue : 17th International Conference, TSD 2014, Brno, Czech Republic, September 8-12, 2014. Proceedings. Cham : Springer, 2014.

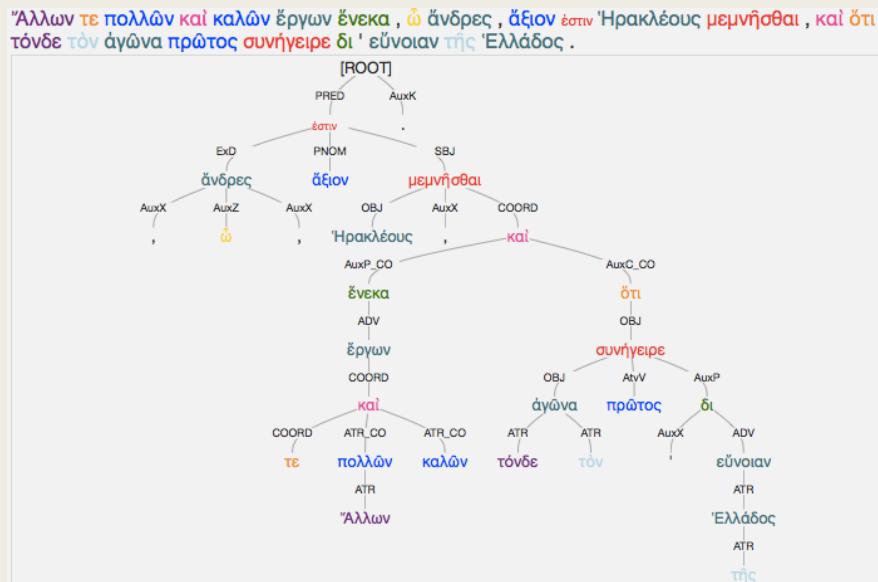
Dionysius, *Lysias*

He is completely **pure in his vocabulary**,
and is the perfect **model of the Attic dialect**
(Dionysius of Halicarnassus, *Lysias* 2)

Purity of language, correct dialect, the
presentation of ideas by means of **standard**,
not figurative expressions; **Clarity**, **brevity**,
concision, terseness, vivid
representation...But there is nothing sublime
or imposing about the style of Lysias. It
certainly does not excite us or move us to
wonder, nor does it portray pungency ,
intensity or fear; (Dionysius of Halicarnassus,
Lysias 13)

LYSIAS, OLYMPIAKUS

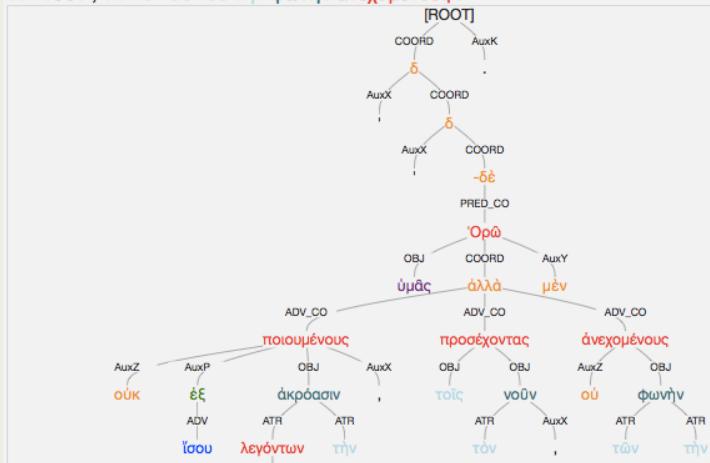
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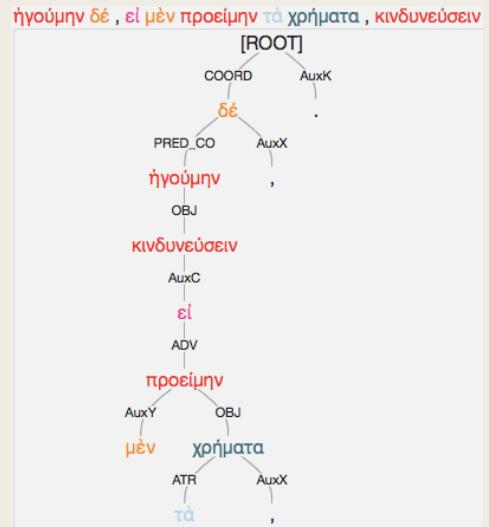


- His style has the following characteristics: **it is as pure as that of Lysias**; Not a word is used at random; And the language conforms closely to the most ordinary and familiar usage. Like its predecessor, it avoids the banality of archaic and obscure words, **but uses figurative language somewhat more than Lysias**, achieving a happy balance in this respect. In the matter of lucidity and vividness it is similar to that of Lysias; (Dionysius of Halicarnassus, *Isocrates* 2)

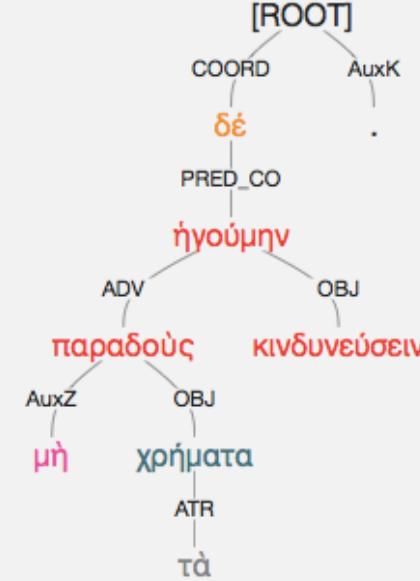
ISOCRATES, PANEGYRICUS 1

'Ορῶ δ ' ύμᾶς ούκ ἔξ ἴσου τῶν λεγόντων τὴν ἀκρόασιν ποιουμένους , ἀλλὰ τοῖς μὲν προσέχοντας τὸν νοῦν , τῶν δ ' οὐ -δὲ τὴν φωνὴν ἀνεχομένους .





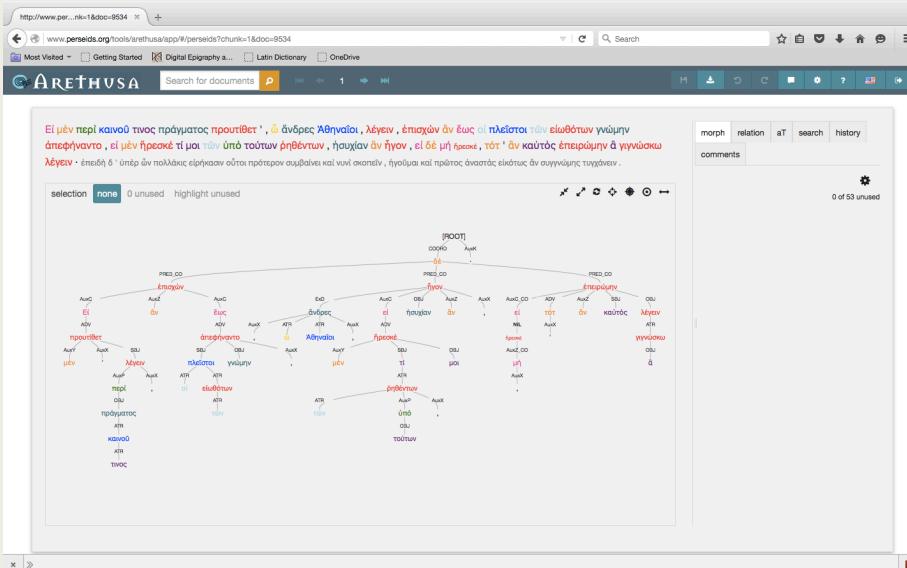
ἡγούμην δέ μὴ παραδούς τὰ χρήματα κινδυνεύσειν



ISOCRATES AND HIS REWRITES

Dionysius, *Demosthenes*

- In the first place, before rounding off the first idea (or clause if it should be called), a second idea is introduced; then a third is subjoined before the second is complete, and material belonging to the second is tacked on after the third has been completed.
(Dionysius, *Demosthenes* 9)

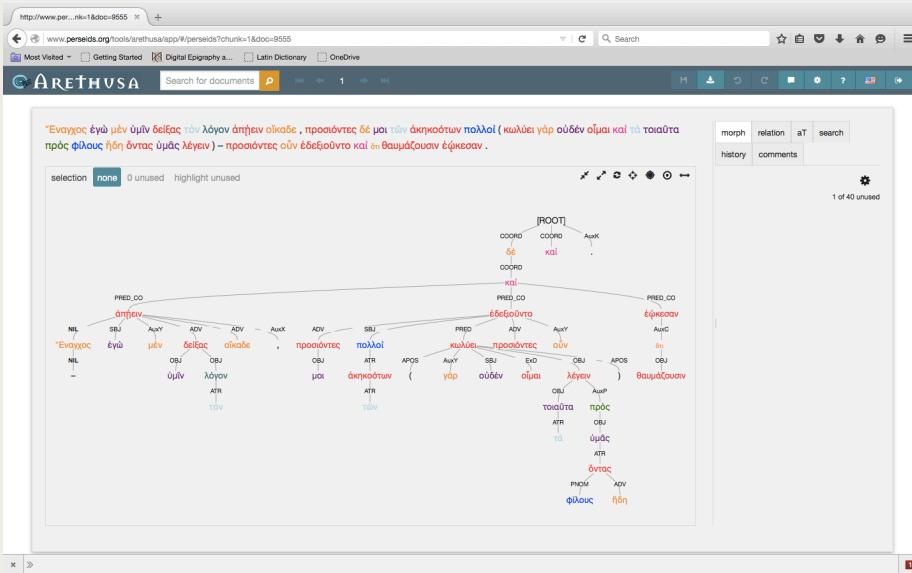


DEMOSTHENES, PHILIPPIC 1.1

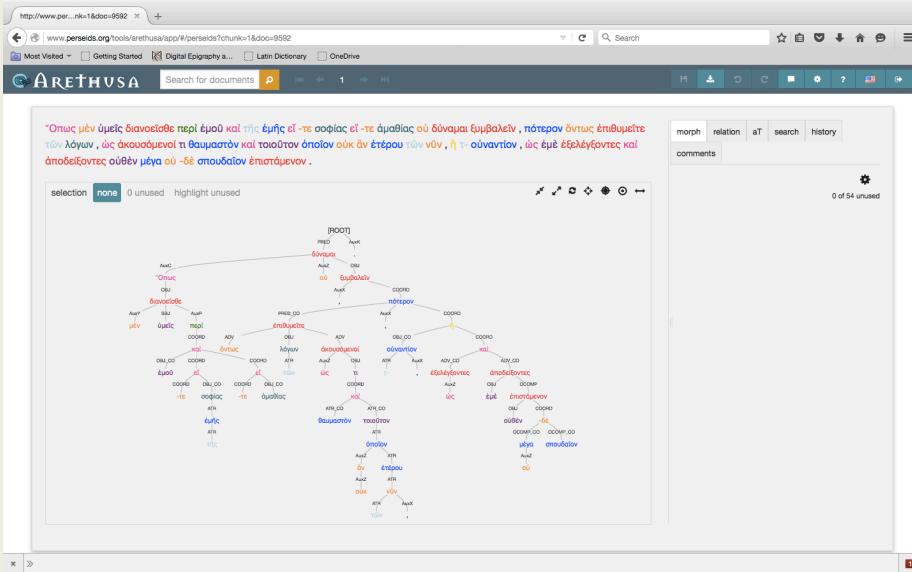
- Coming to make you my morning salutation, which should have taken the orthodox form of Rejoice, I bade you, in a very choice fit of absent-mindedness, **Be healthy**—a good enough wish in its way, but a little untimely and unconnected with that early hour. (*Luc. Laps.* 1.)

- To be honest, however, their praise caused me considerable annoyance, and when they had gone and I was left alone, I reflected as follows: “So this is the only attraction in my writings, that they are **unconventional** and keep off the beaten track. While good vocabulary, **conformity to the ancient canon**, penetration of intellect, power of perception, **Attic grace**, good construction, general competence, perhaps have no place in my work. (Lucian, *Zeuxis* 2)

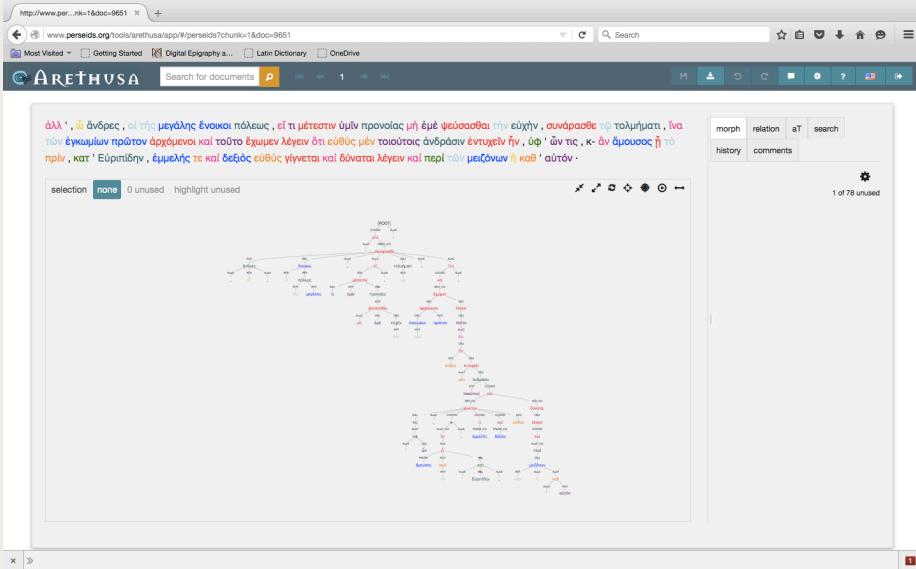
LUCIAN, ZEUXIS 1



DIO, ORATIO 42.1



AELIUS ARISTIDES, *ROME*



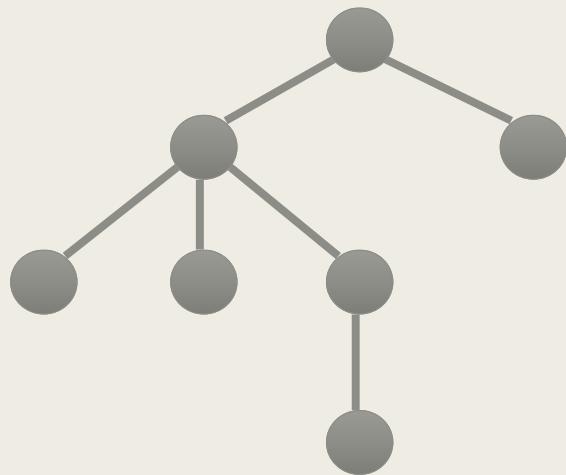
Sentence as a tree

- $S = \{n_1, n_2, n_3, \dots, n_k\}$
 - where n_i is a tree node ($n_i \in T$)
 - and T denotes the space of tree nodes
- Each node is a tree on its own
- Each node has properties such as:
 - children of: $T \rightarrow \{\emptyset, T, T^2, \dots, T^{k-1}\}$
 - isATR: $T \rightarrow \{0, 1\}$

$$f(S) = w_1\mu(n_1) + w_2\mu(n_2) + \dots + w_k\mu(n_k) = \sum_{i=1}^k w_i\mu(n_i)$$

Node-Based metrics

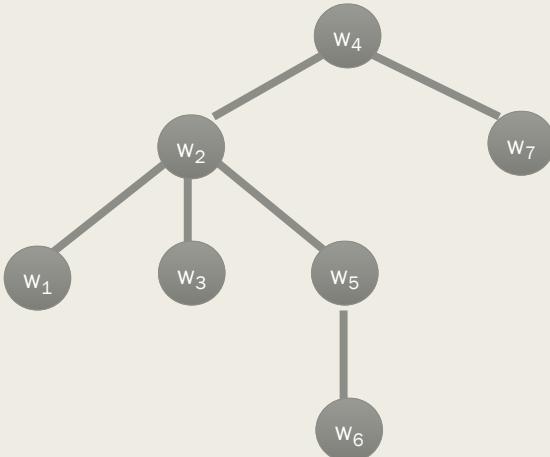
- Let's consider this example syntactically annotated sentence:



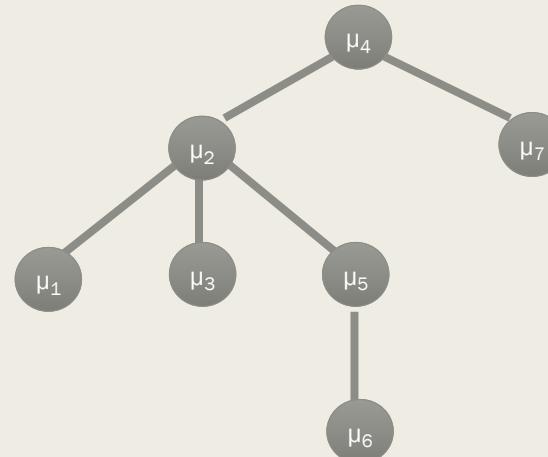
Node-Based metrics

- To calculate a sentence metric we need: w and μ

Weights



Metric Values

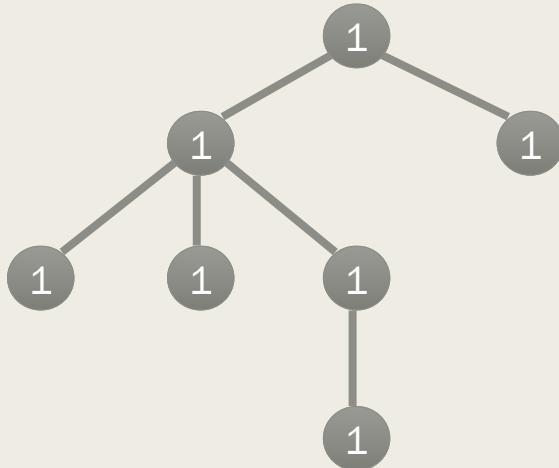


- Result: $w_1 \times \mu_1 + w_2 \times \mu_2 + w_3 \times \mu_3 + w_4 \times \mu_4 + w_5 \times \mu_5 + w_6 \times \mu_6 + w_7 \times \mu_7$

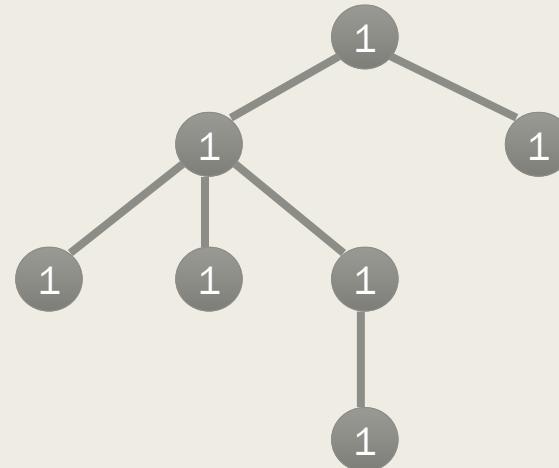
Node-Based metrics

- ### ■ Metric example: *Number of words*

Weights

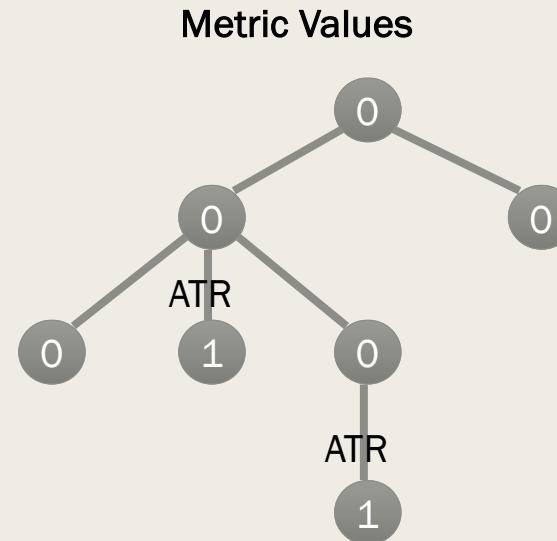
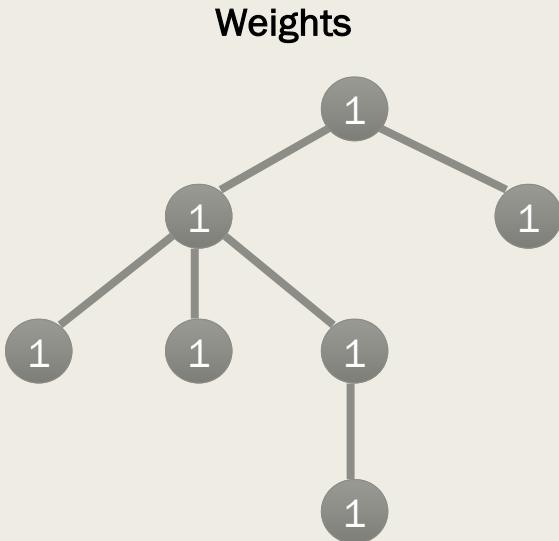


Metric Values



Node-Based metrics

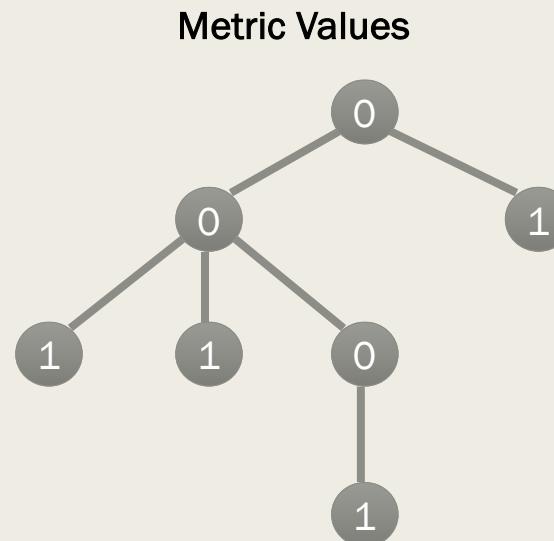
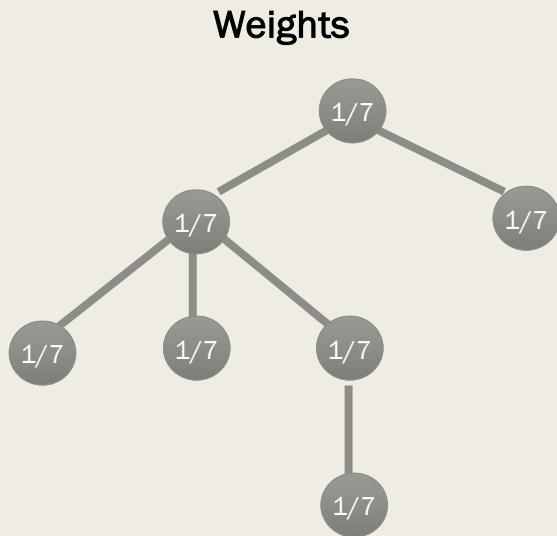
- Metric example: *Number of attributives*



- Result: $1 \times 0 + 1 \times 0 + 1 \times 1 + 1 \times 0 + 1 \times 1 + 1 \times 0 + 1 \times 0 = 2$

Node-Based metrics

- Metric example: *Percentage of leaves*

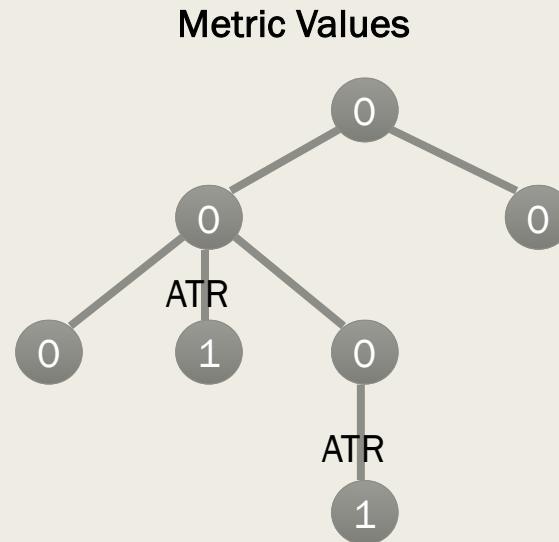
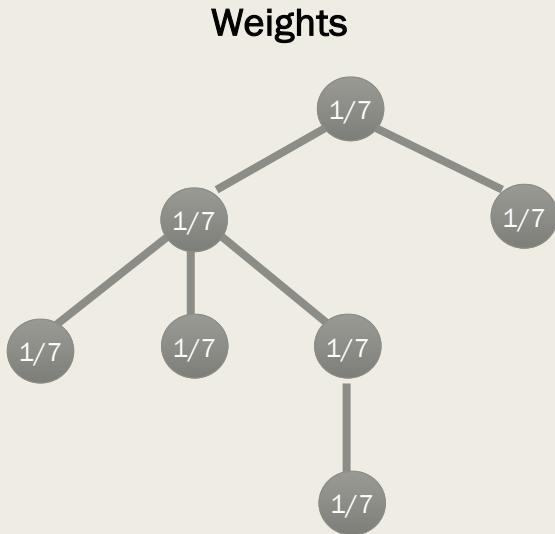


- Result:

$$1/7 \times 0 + 1/7 \times 1 + 1/7 \times 1 + 1/7 \times 0 + 1/7 \times 1 + 1/7 \times 1 + 1/7 \times 0 = 4/7$$

Node-Based metrics

- Metric example: *Percentage of attributives*

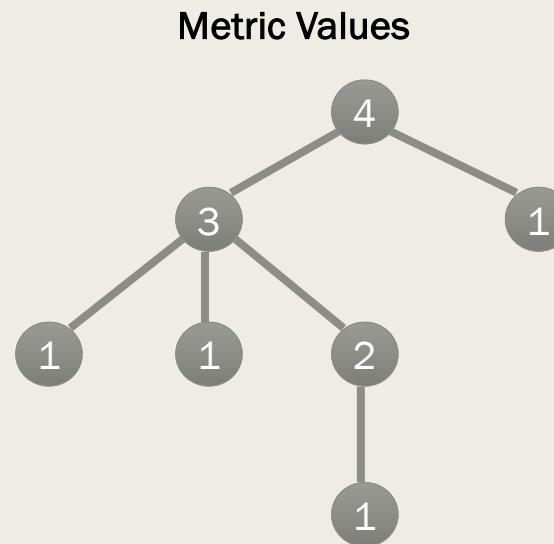
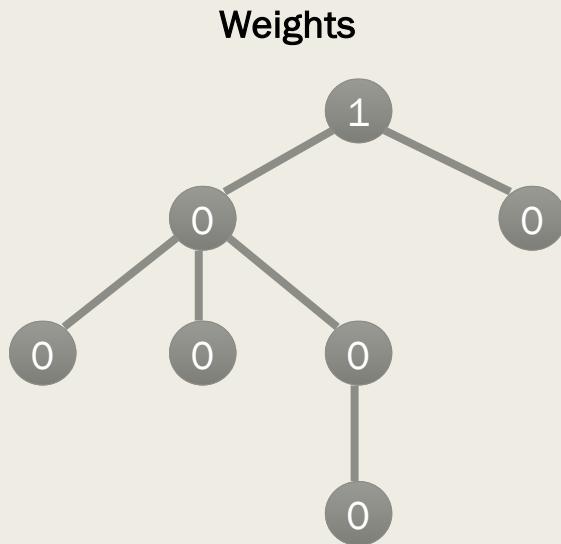


- Result:

$$1/7 \times 0 + 1/7 \times 0 + 1/7 \times 1 + 1/7 \times 0 + 1/7 \times 1 + 1/7 \times 0 + 1/7 \times 0 = 2/7$$

Recursive Node-Based metrics

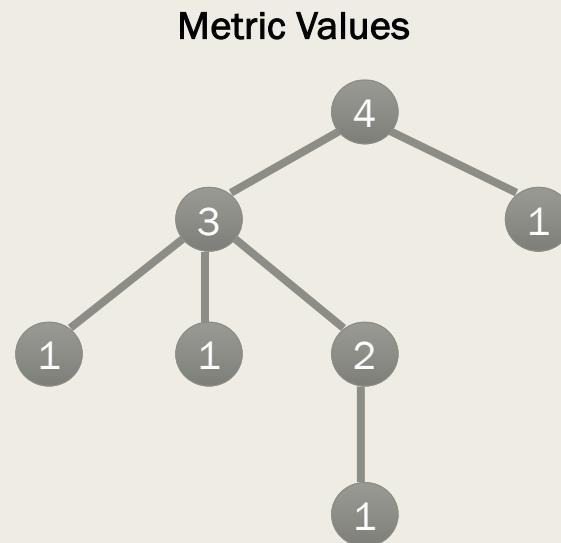
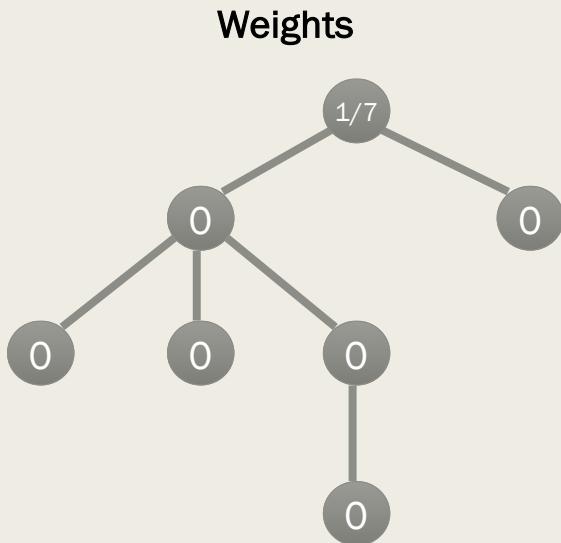
- Metric example: *Height of the tree*



- Result: $1 \times 4 + 0 \times 3 + 0 \times 1 + 0 \times 1 + 0 \times 1 + 0 \times 2 + 0 \times 1 = 4$

Recursive Node-Based metrics

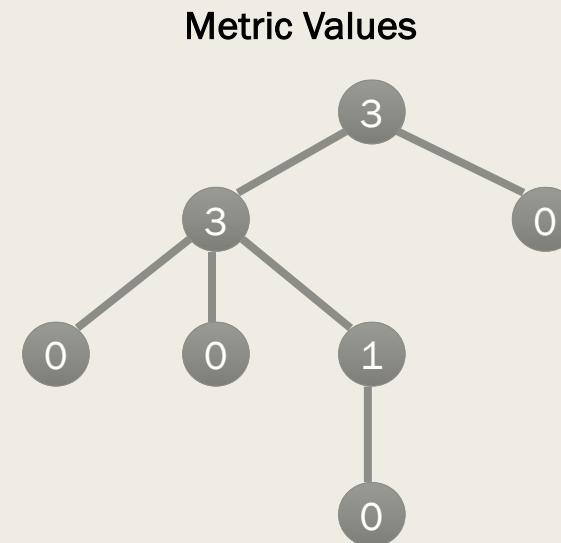
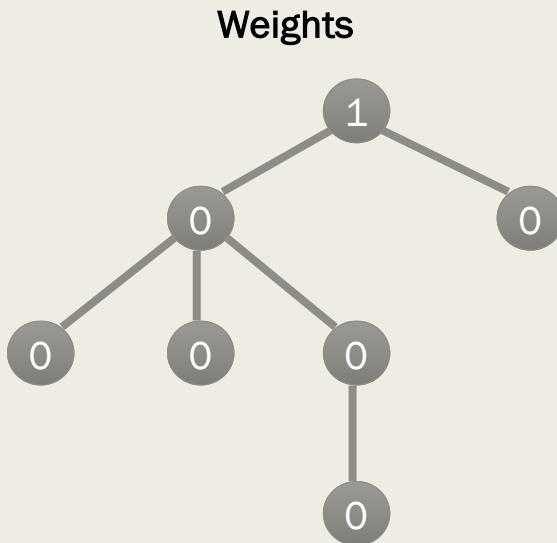
- Metric example: *Height of the tree as percentage of the words*



- Result: $1/7 \times 4 + 0 \times 3 + 0 \times 1 + 0 \times 1 + 0 \times 1 + 0 \times 2 + 0 \times 1 = 4/7$

Recursive Node-Based metrics

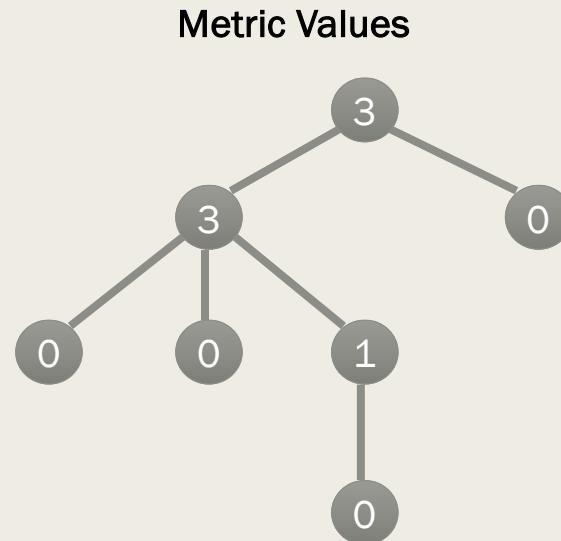
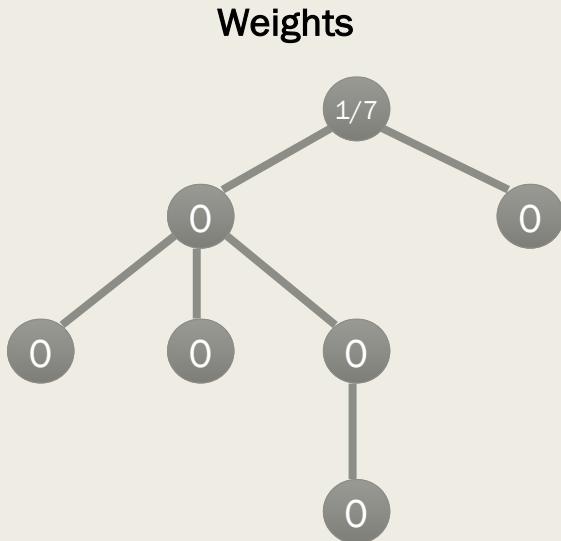
- Metric example: *Size of largest family*



- Result: $1 \times 3 + 0 \times 3 + 0 \times 0 + 0 \times 0 + 0 \times 0 + 0 \times 1 + 0 \times 0 = 3$

Recursive Node-Based metrics

- Metric example: *Size of largest family as percentage of the words*



- Result: $1/7 \times 3 + 0 \times 3 + 0 \times 0 + 0 \times 0 + 0 \times 0 + 0 \times 1 + 0 \times 0 = 3/7$

Javascript

```
m=new NodeMetric('Percentage of Verb Attributives');

m.weight=function(n)
{
    return 1/n.getRoot().getNumOfWords();
};

m.metric=function(n)
{
    if(n.getRelation()=='ATR' && n.getPosTag()[0]=='v')
        return 1;
```

metrics

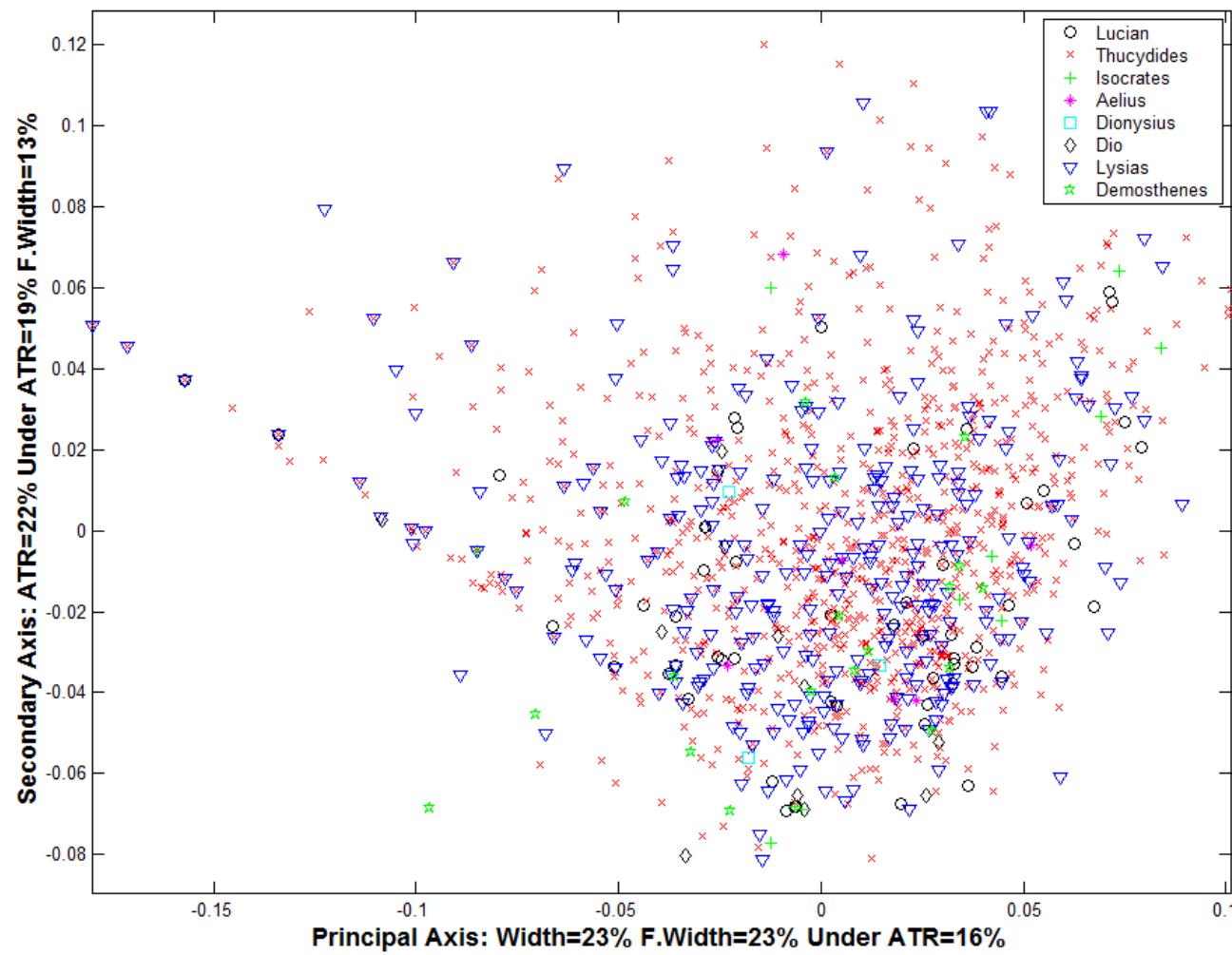
1. Height of the tree as percentage of the nodes
2. Width of the tree as percentage of the nodes
3. Number of leaves as percentage of the nodes
4. Number of attributives as percentage of the nodes
5. Largest family size as percentage of the nodes
6. Verb Attributives as percentage of the nodes
7. Percentage of δέ coordinates
8. Number of nodes under ATR as percentage of the nodes
9. Adjective Attributives as percentage of the nodes

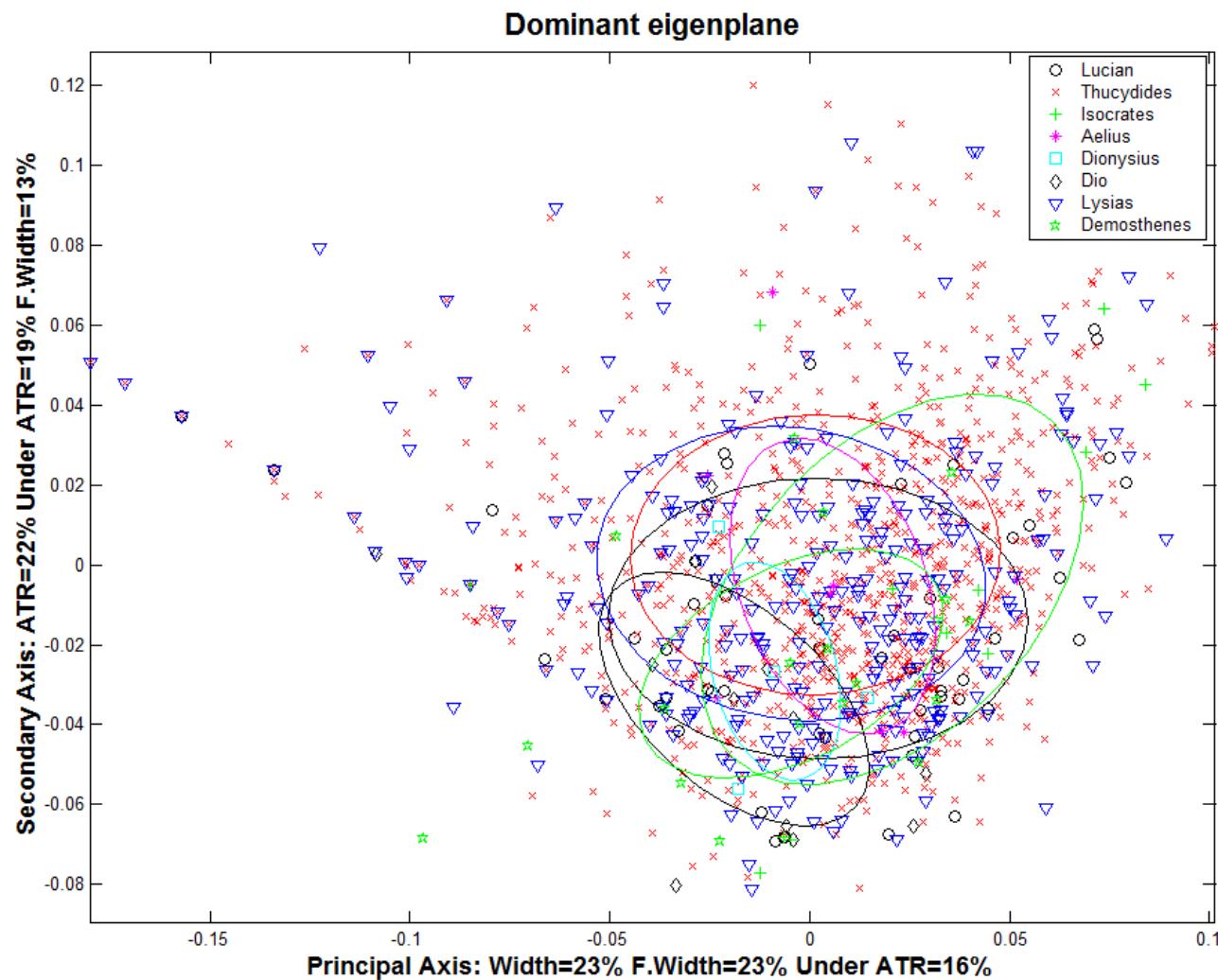
SAMPLE DATA

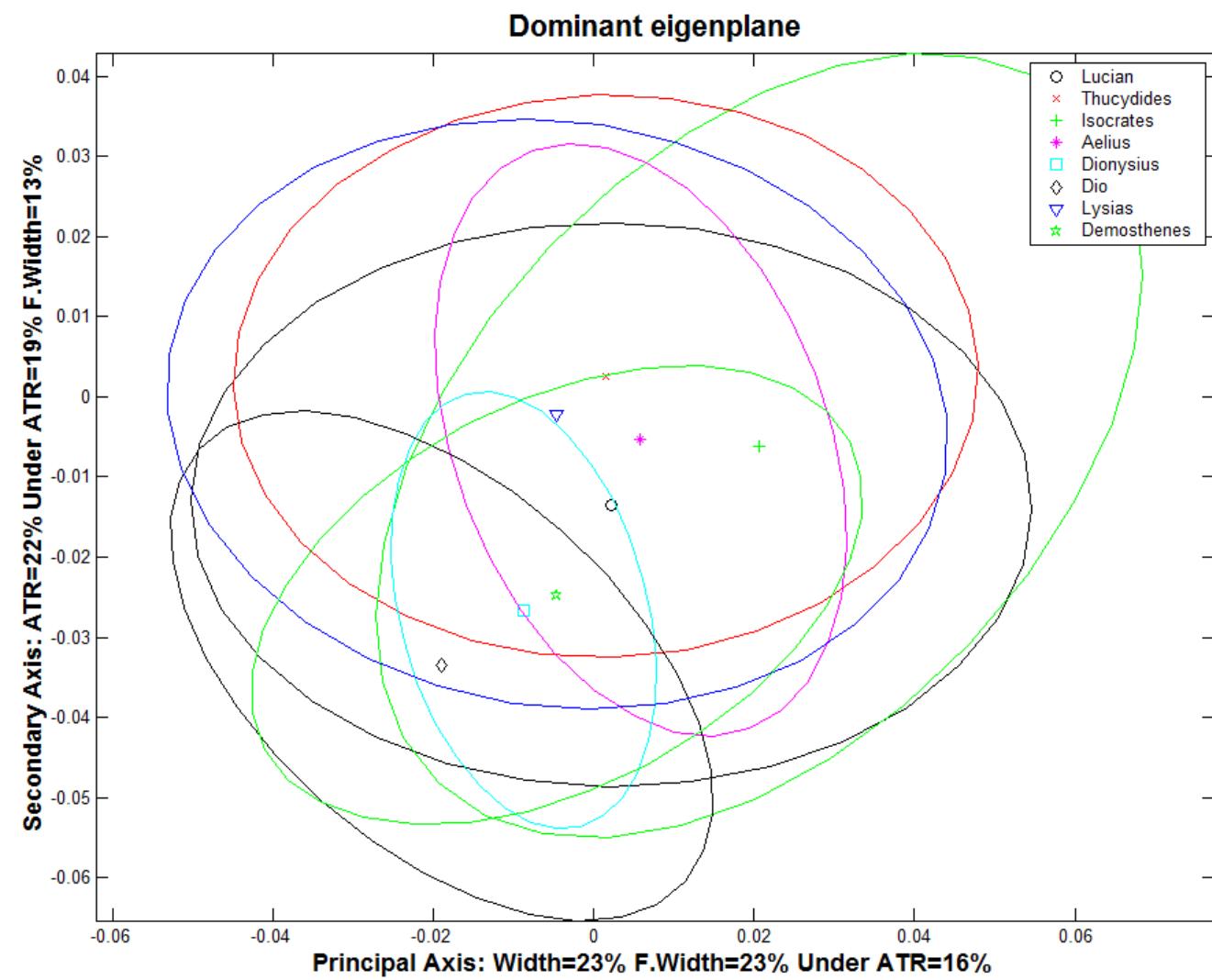
Height Width Leaves ATR Family VATR de UATR AATR

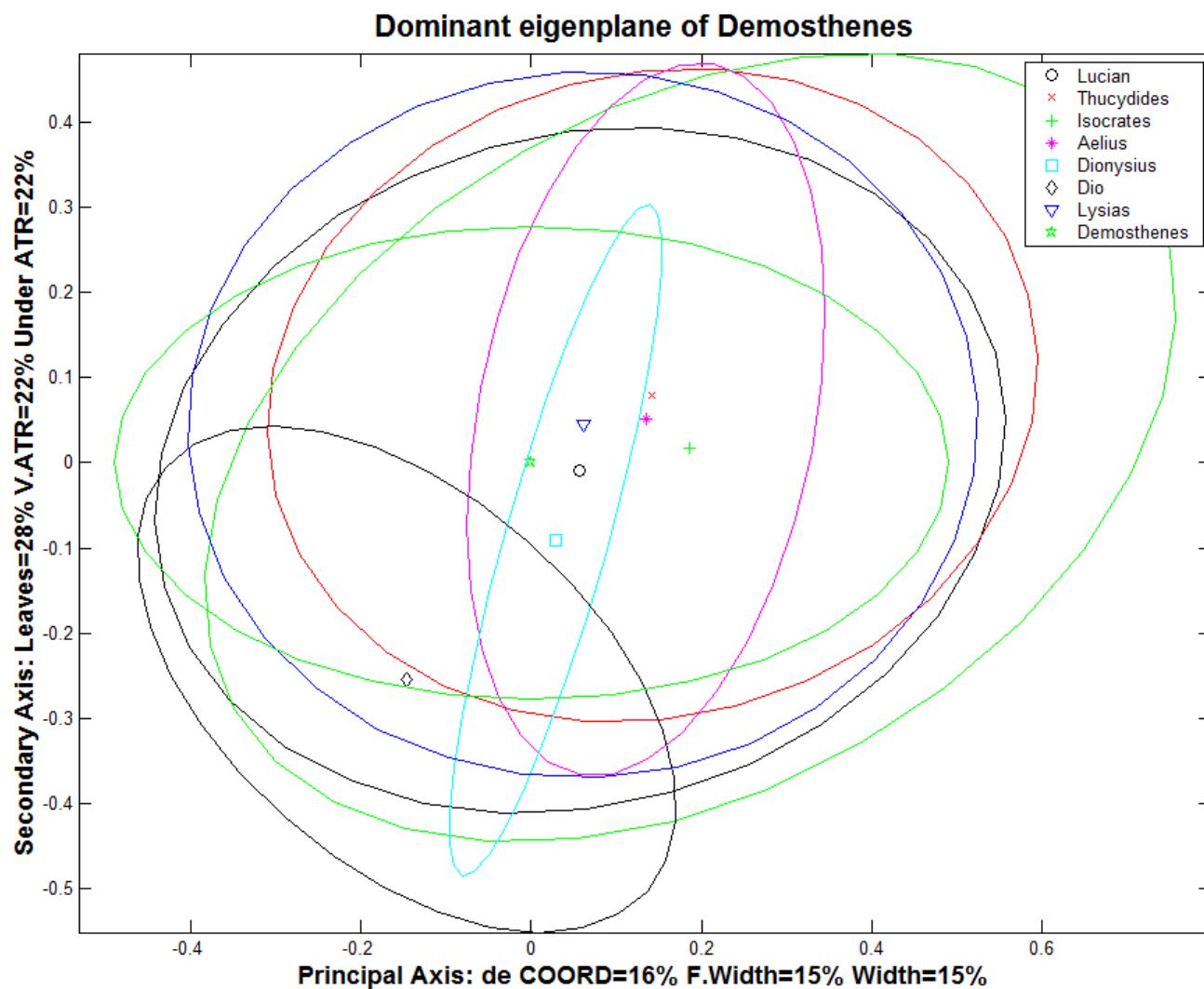
0.4000	0.3700	0.2000	0.1300	0.2700	0	0.0300	0	0.4000
0.7500	0.2500	0.7500	0.7500	0.2500	0	0	0	0.2500
0.5000	0.3300	0.2800	0.2200	0.0600	0	0	0.1100	0.0600
0.4400	0.1600	0.2400	0.0800	0.1800	0	0.0800	0.0400	0.3500
0.4700	0.2700	0.3300	0.2700	0.0700	0	0	0	0.0700
0.3500	0.3200	0.1800	0.0900	0.1800	0.0300	0.0300	0.0900	0.3400
0.5600	0.4400	0.3300	0.3300	0.1100	0	0	0	0.1100
0.4700	0.2400	0.3100	0.1100	0.3800	0.0500	0.0500	0.1300	0.6500
0.4700	0.1600	0.2400	0.1600	0.2100	0	0	0.0300	0.2100
0.5000	0.1500	0.2500	0.1000	0.1900	0.0600	0.0400	0.0200	0.3300
0.5000	0.4100	0.2700	0.1400	0	0	0	0.0500	0
0.5800	0.2500	0.4200	0.3300	0.2500	0	0	0	0.2500
0.4700	0.1500	0.2600	0.1300	0.2100	0	0.0200	0.0900	0.2800
0.4600	0.3800	0.3100	0.3100	0.3800	0	0	0	0.6200
0.5000	0.2500	0.2500	0.1400	0.2500	0.0400	0	0.0400	0.3900
0.4400	0.3300	0.4400	0.3300	0.2200	0	0.1100	0	0.3300
0.5000	0.2100	0.3600	0.2900	0.2900	0	0	0	0.4300
0.5800	0.2500	0.4200	0.4200	0.1700	0	0	0	0.1700
0.6000	0.4000	0.6000	0.6000	0	0	0	0.2000	0
0.4400	0.2200	0.2600	0.1500	0.1100	0	0.0400	0	0.1500
0.5800	0.4200	0.4200	0.4200	0	0	0	0.0800	0
0.5500	0.1900	0.2600	0.2600	0.2900	0.0300	0.0600	0.0300	0.6100
0.4800	0.2300	0.1900	0.1900	0.1900	0	0	0	0.1900
0.5300	0.1600	0.3400	0.1600	0.1600	0	0.0300	0.0500	0.1600
0.5000	0.1500	0.1800	0.0600	0.1300	0.0100	0	0.0200	0.2900
0.4800	0.2000	0.4400	0.2000	0.0400	0	0	0.0400	0.0400
0.5500	0.3600	0.4500	0.4500	0.2700	0.0900	0.0900	0	0.2700
0.5500	0.3600	0.3600	0.3600	0.1800	0	0.0900	0	0.1800
0.4300	0.3300	0.2400	0.1400	0.2900	0.1000	0	0	0.6700
0.4900	0.2300	0.1300	0.0900	0.1600	0	0.0100	0	0.1800
0.4200	0.2300	0.1600	0.0800	0.2500	0.0300	0.0200	0.0500	0.6100
0.4300	0.2000	0.2500	0.1200	0.2200	0	0.0200	0.0400	0.3100
0.3500	0.3000	0.2600	0.1300	0.2600	0.0500	0	0	0.3600
0.4400	0.3300	0.4400	0.4400	0.4400	0.2500	0	0	0.7500
0.5300	0.1800	0.2600	0.1100	0.2100	0.0300	0.0300	0	0.2400
0.5700	0.3600	0.3600	0.3600	0.1400	0	0.0700	0	0.1400
0.4400	0.2800	0.3600	0.1200	0.2400	0.0400	0	0.0400	0.3300
0.4700	0.1400	0.2300	0.0600	0.1100	0.0100	0.0500	0.0100	0.3500
0.4700	0.3000	0.1700	0.1700	0.1300	0.0300	0.0300	0	0.5000
0.5300	0.2100	0.4200	0.3200	0.1100	0	0	0.0500	0.1100
0.5500	0.2300	0.2000	0.1100	0.1400	0.0200	0.0200	0.0200	0.5900
0.3600	0.4500	0.2700	0.2700	0.3600	0.1000	0.1000	0	0.6000
0.5000	0.2500	0.2900	0.1400	0.0400	0	0	0.0700	0.0400

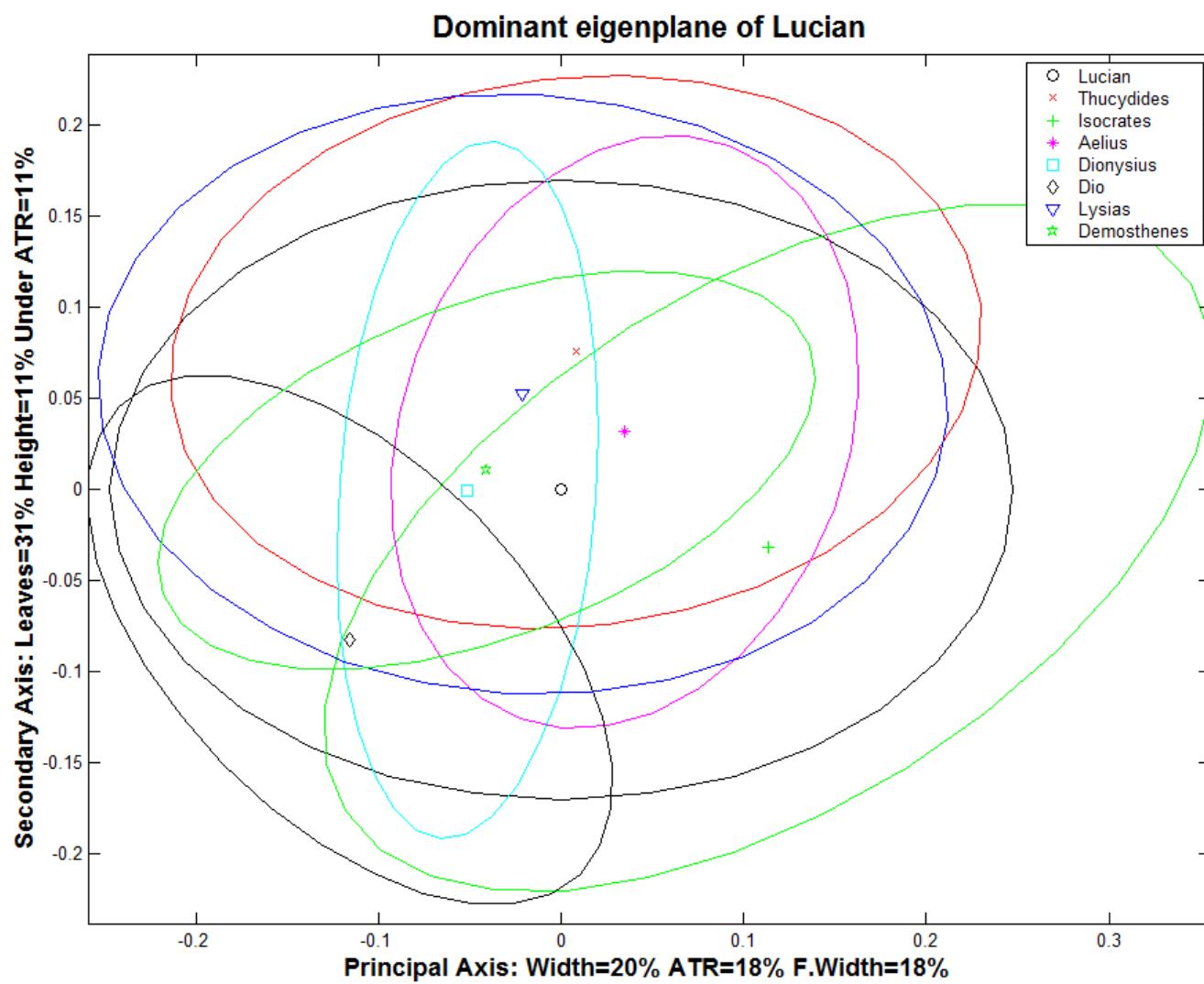
Dominant eigenplane

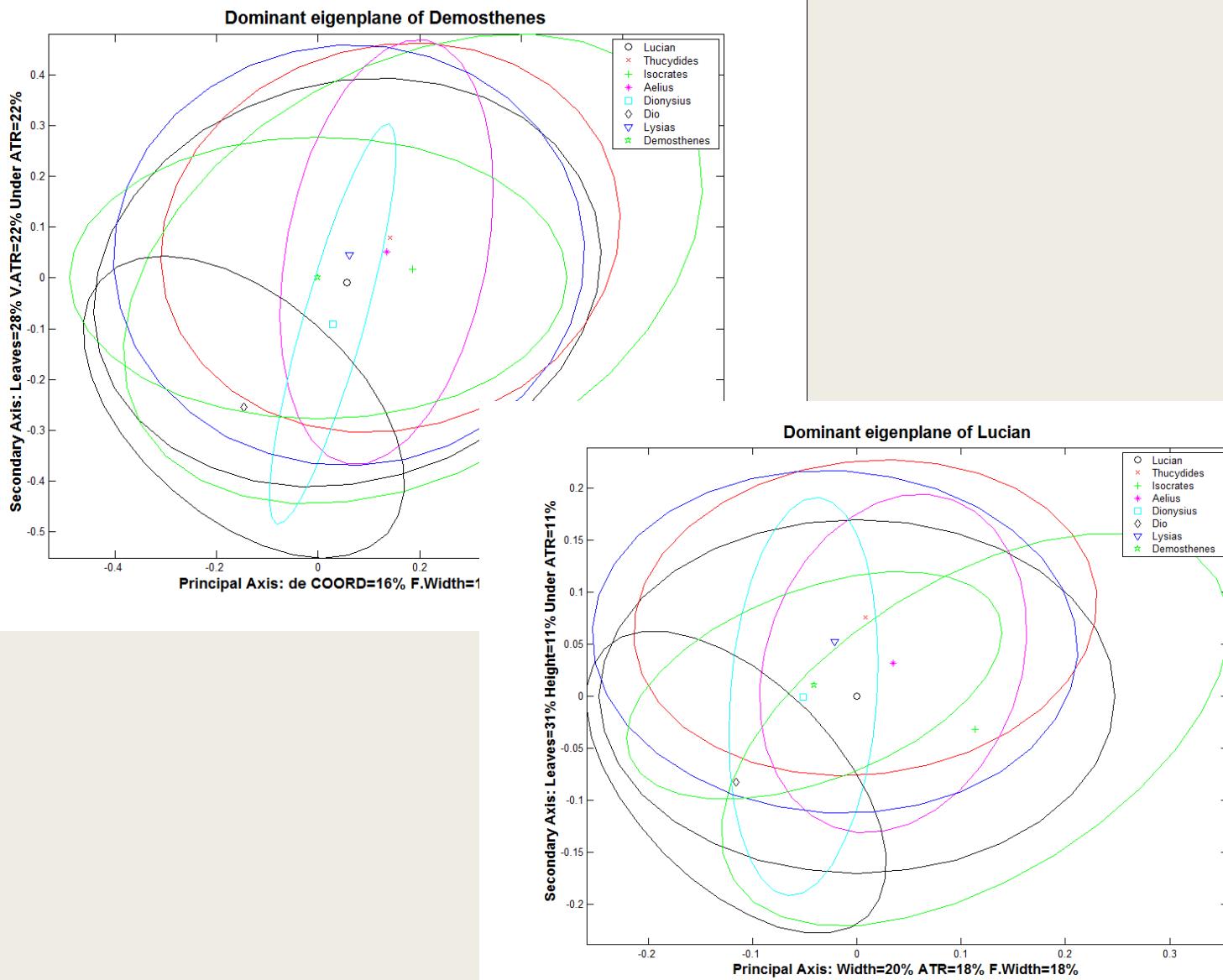










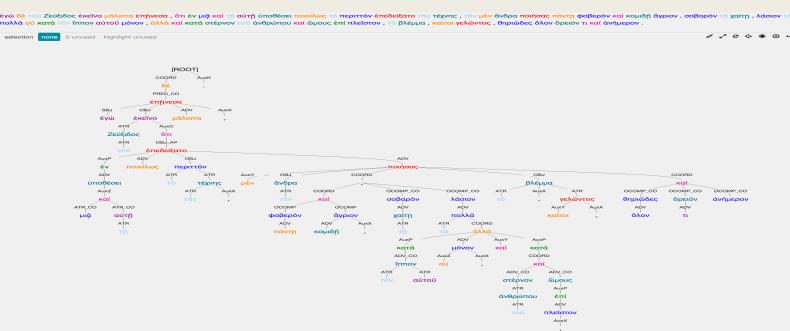
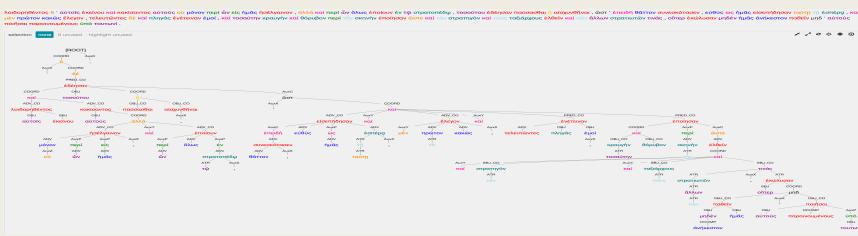


Dionysius through Wavelets

- He is therefore compelled to **pad his sentences** with words that contribute nothing, and to **extend his speech beyond its effective length**. I do not mean to imply that he invariably does this (I am not so mad as to do that: for there are times, especially in his political and forensic speeches, when he tastefully relieves the periodic structure and avoids the excessive and vulgar use of figures, and composes in plain style).
(D.H. *Isoc.* 3)

Analysis

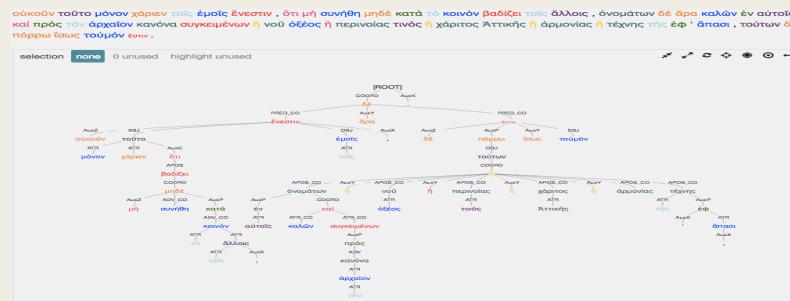
Demosthenes, Against Conon 1



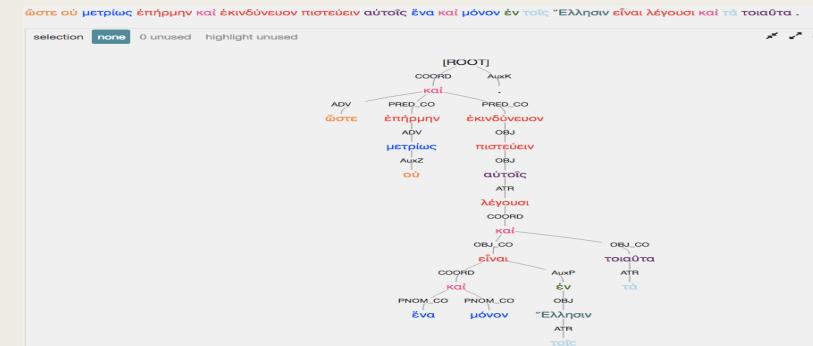
Lucian, Zeuxis 1

analysis

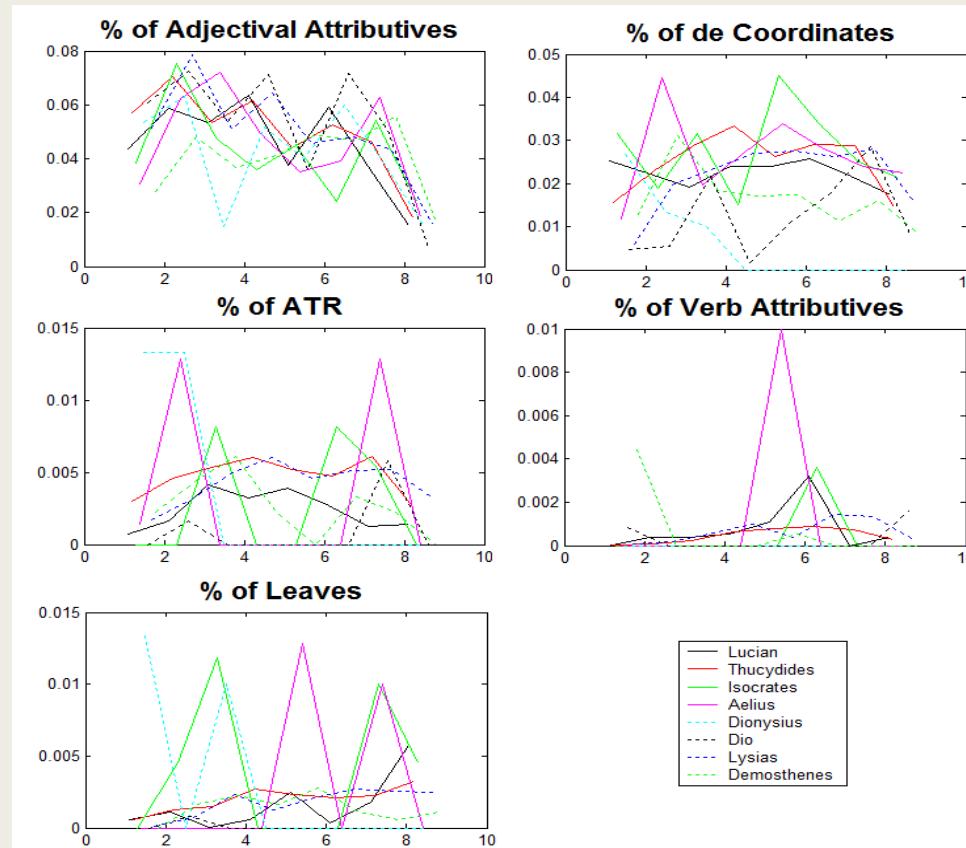
Lucian, Zeuxis 1



Lucian, Zeuxis 2

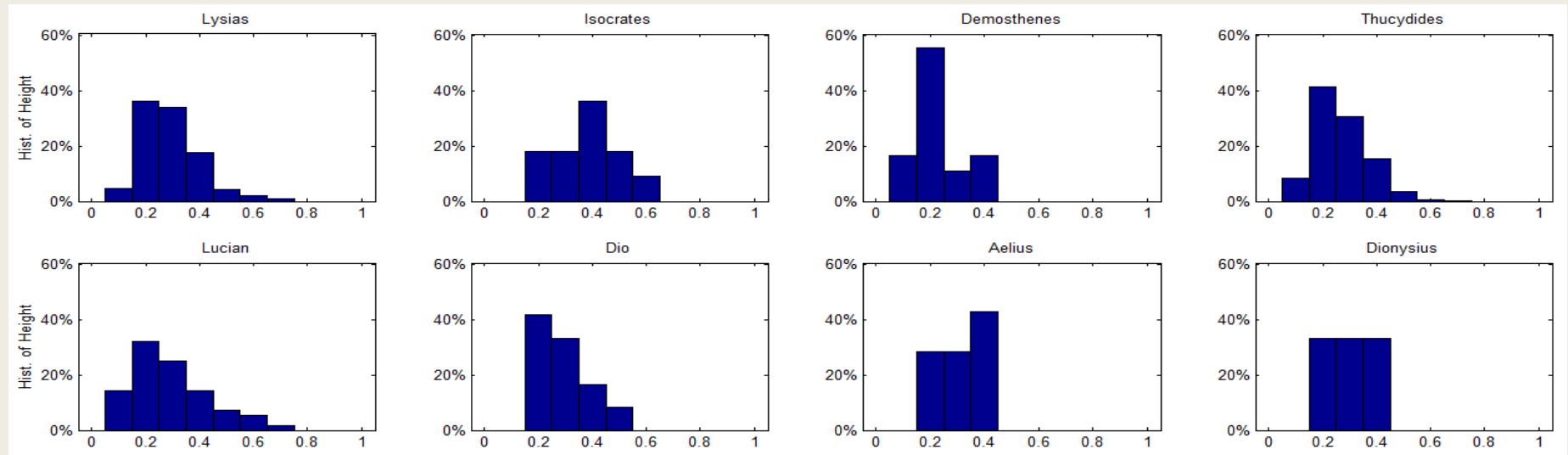


wavelets



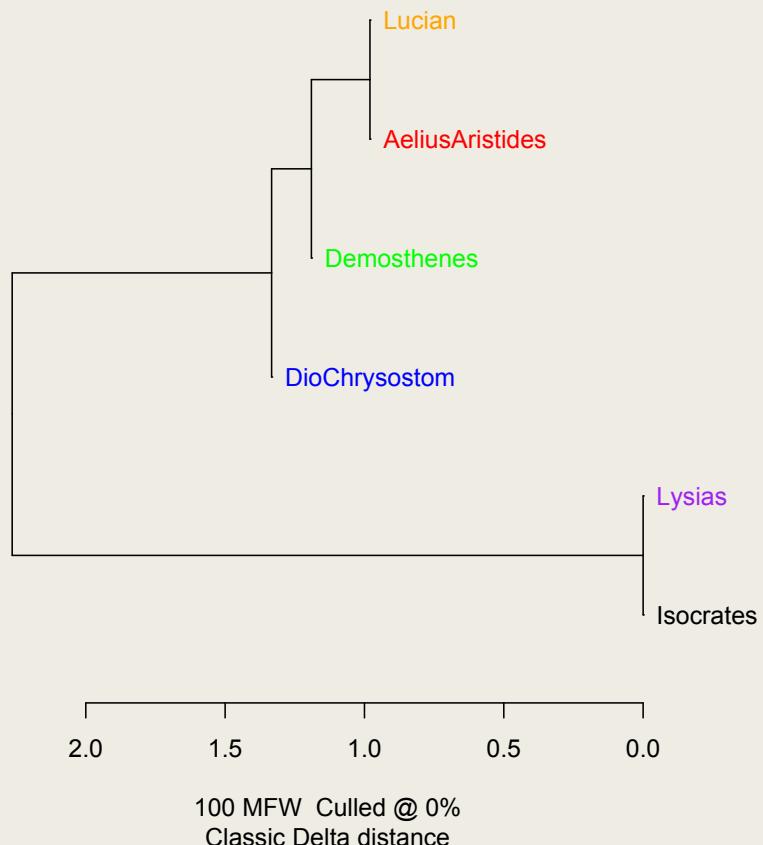
Plots of the average local variations of each metric along the sentence as calculated from the wavelet metrics.

Analysis

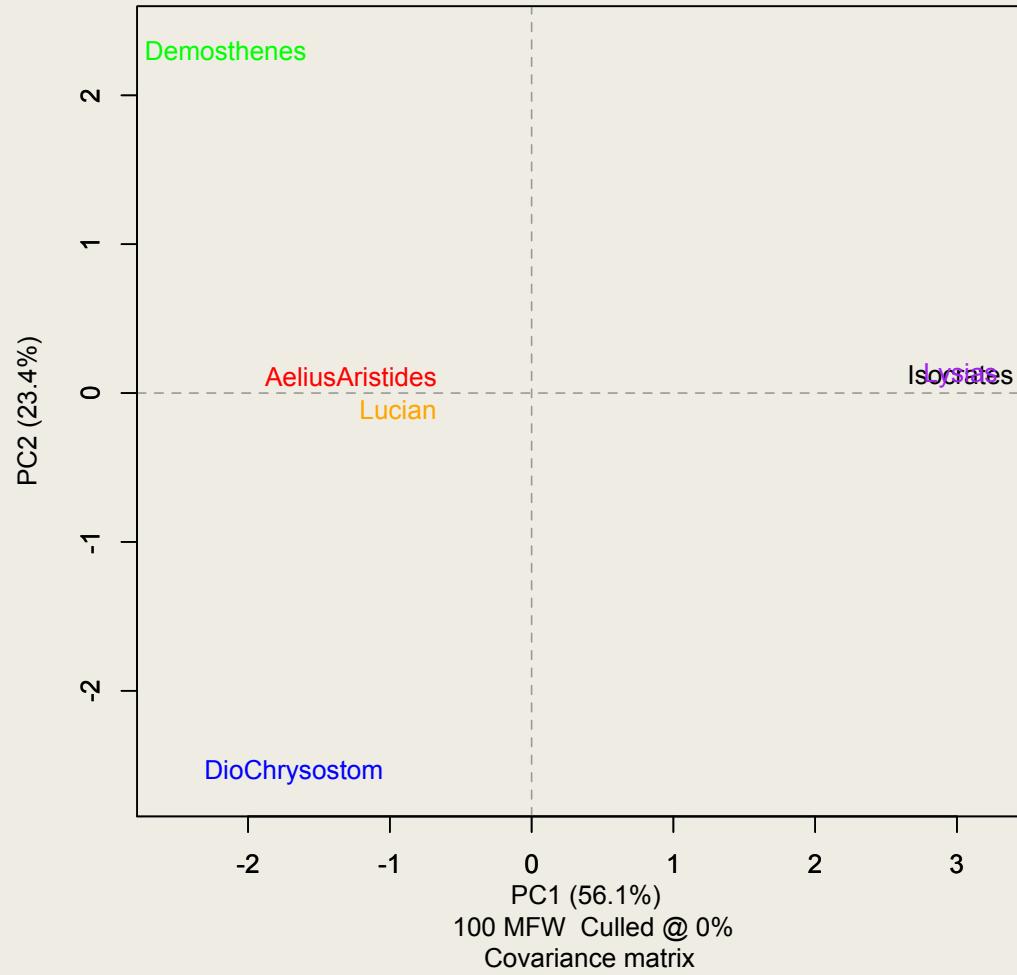


This figure shows histograms of height as percentage of the nodes.

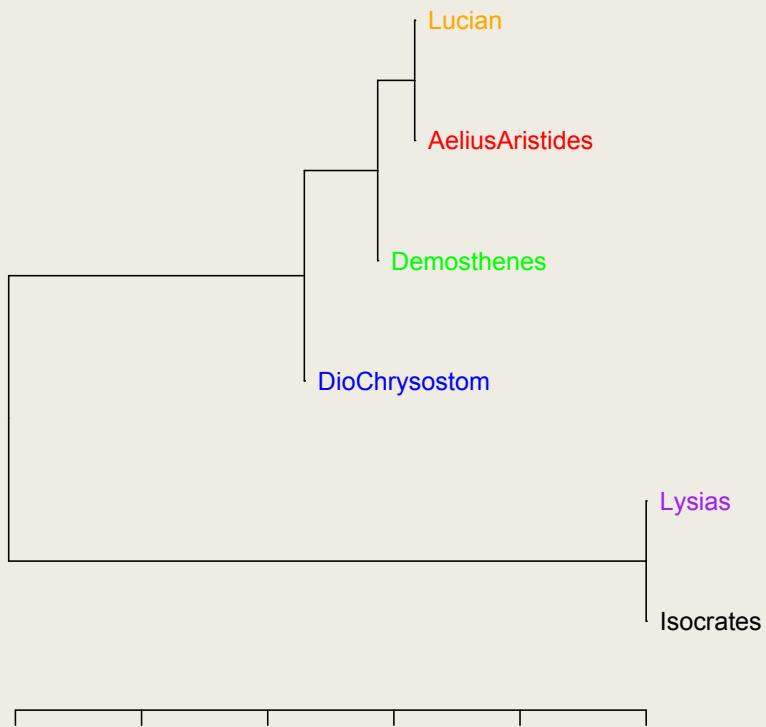
Desktop Cluster Analysis



Desktop Principal Components Analysis



Desktop Cluster Analysis



100 MFC 3-grams Culled @ 0%
Classic Delta distance

Welcome to Metreex.org





THANK
YOU!