



The Living Texts of Acts

Evolutionary approach to Textual Change



The Book of Acts

- Historical narrative of the origins of Christianity
- Second part of the two-volume work Luke-Acts
- Assigned to Luke
- Written ca. 80-90 CE
- Narrative spans 30 years (ca. 30–60 CE)
- Catalogued manuscripts: 467



Evolution of Species

- Replicators
 - Ability to make copies of themselves
 - Errors as the key ingredient
 - Accidental in nature
 - Competition
 - Useful changes tend to be preserved
 - Harmful becomes less-numerous
- Evolution is fundamentally unpredictable



Manuscript evolution

- Manuscripts were copied by hand





1110.	1111.	1112.
1113.	1114.	1115.
1116.	1117.	1118.
1119.	1120.	1121.

Source: British Library Catalogue of Illuminated Manuscripts. London, British Library MS Royal 14 E III, f. 6v. Northern France, 1st quarter of the 14th century
<http://www.bl.uk/catalogues/illuminatedmanuscripts/ILLUMIN.ASP?Size=mid&IllID=43454>



Manuscript evolution

- Manuscripts were copied by hand
 - Every act of copying introduced errors (mutations)



Acts 15:40

ΚΥΠΡΟΝ ΠΑΥΛΟ
ΔΕ ΕΠΙΛΕΞΑΜΕΝ
ΣΙΑΛΛΗΝΕΣ ΗΛΘΕΝ ΠΑ

ΠΑΥΛΟΣ ΔΕ ΕΠΙΛΕΞΑΜΕΝ ΘΕΣΕΙΑΝ



Acts 19:34

ΔΑΙΟΥΣ ΕΣΤΙΝ ΦΩΝΗ ΕΓΕ-
ΝΕΤΟ ΜΙΑ ΕΚ ΠΑΝΤΩΝ
ΩΣ ΕΙ ΕΠΙΩΡΑΣ ΔΥΟ ΚΡΑ-
ΖΟΝΤΩΝ ΜΕΓΑΛΗ Η ΑΡΤΕ-
ΜΙΣ ΕΦΕΣΙΩΝ ΜΕΓΑΛΗ
Η ΑΡΤΕ ΜΙΣ ΕΦΕΣΙΩΝ



Manuscript evolution

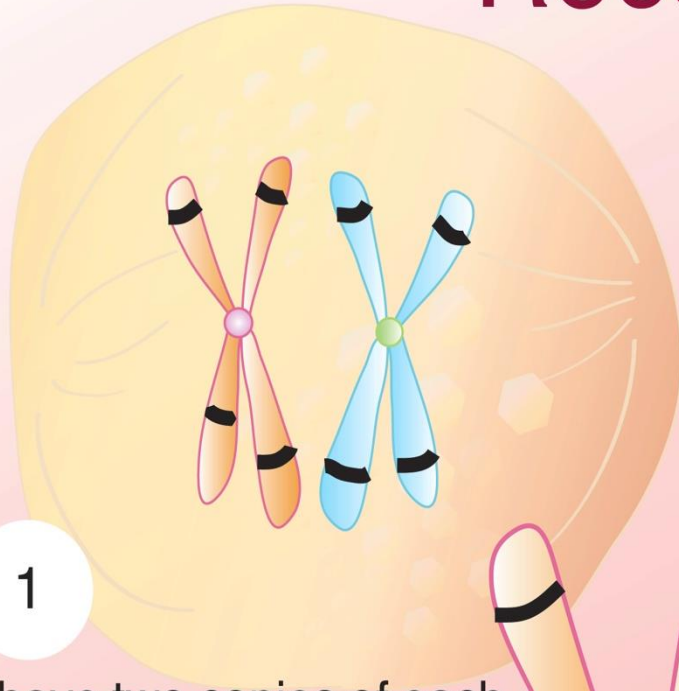
- Manuscripts were copied by hand
 - Every act of copying introduced errors (mutations)
 - Accumulated over time
 - These types of changes are random
 - Acts was copied by hand over 1400 years
 - Result: myriad changes



Manuscript evolution

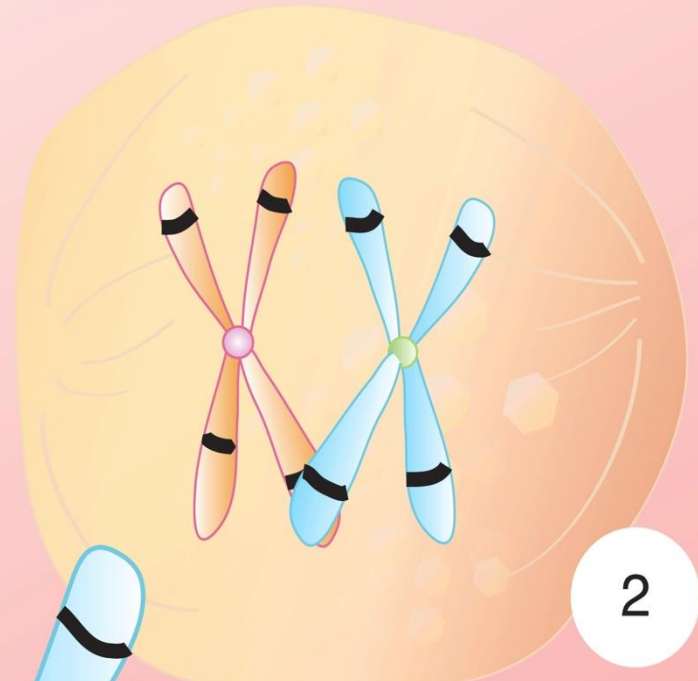
- Types of changes:
 - Mutations
 - Recombination (contamination)

Recombination



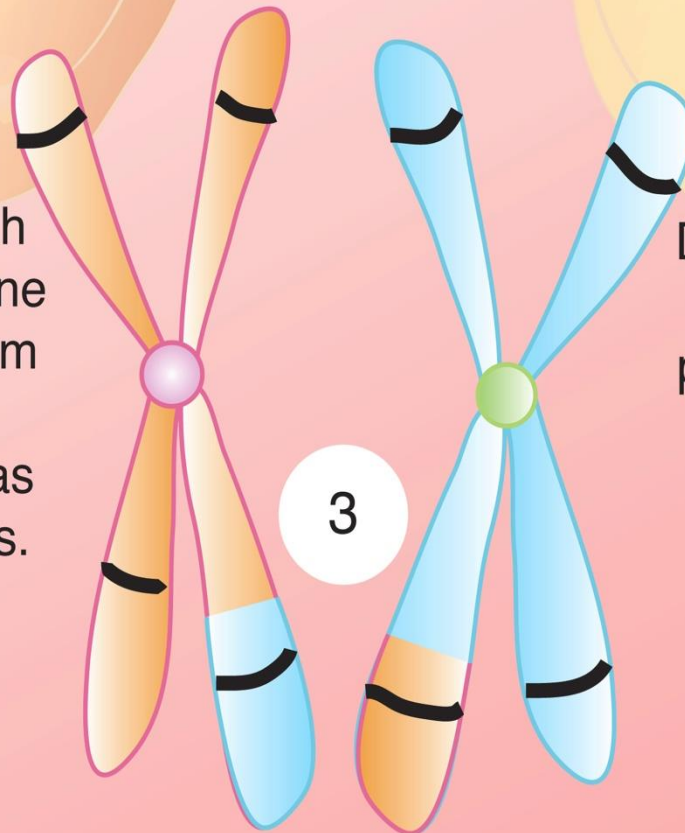
1

We have two copies of each chromosome in our cells, one from our father and one from our mother. These chromosomes are known as homologous chromosomes.



2

During genetic recombination, homologous chromosomes physically exchange pieces of genetic information.



3



Minuscule 1739: (Acts 8:36–39)

ὁ βαπτισθῆναι ἐμ τοῖς ὕδασι· ὁ βαπ-
τιζόμενος· ἡμεῖς δὲ σοὶ δὲ ἐμοὶ ἀχρηστοί·
δὲ αὐτὸν· τὸν τὰ ἐμὰ σοὶ ἀχρηστοί
γὰρ ἐμὸν μὴ πρὸς ἑμαυτὸν κατὰ ἕχρη-
σιν· ἐμ τοῖς ὕδασι τὸν ὁ βαπτιζόμενος·
γὰρ μὴ οὐδὲ μὴ θέλω ποιῆσαι· ἵνα
τὸ ἀγαθὸν σου· ἡμεῖς κατὰ ἐλευσίαν
χαρισθῆναι πρὸς ἑαυτὸν· ἵνα αὐτὸν ἀγάσῃ
δοῦναι· ἀλλὰ πρὸς ἑαυτὸν· ἀγάσῃ τὸν αὐ-



Minuscule 1739: (Acts 8:36–39)

- 36. ως δε επορευοντο κατα την οδον ηλθεν επι τι υδωρ και φησιν ο ευνουχος ιδου υδωρ τι κωλυει με βαπτισθηναι
- 37. ειπεν δε αυτω ει πιστευεις εξ ολης της καρδιας σου εξεστιν αποκριθεις δε ειπεν πιστευω τον υ̅ν του θ̅υ ει̅ναι ι̅ν χ̅ν
- 38. και εκελευσε στηναι το αρμα και κατεβησαν αμφοτεροι εις το υδωρ ο τε φιλιππος και ο ευνουχος και εβαπτισεν αυτον



Minuscule 1739: (Acts 8:36–39)

- 39. οτε δε ανεβησαν εκ του υδατος $\overline{\pi\nu\alpha}$ αγιον επεπεσεν επι τον ευνουχον αγγελος δε $\overline{\kappa\upsilon}$ ηρπασεν τον φιλιππον και ουκ ειδεν αυτον ο ευνουχος ουκετι επορευετο γαρ την οδον αυτου χαιρων



Manuscript evolution

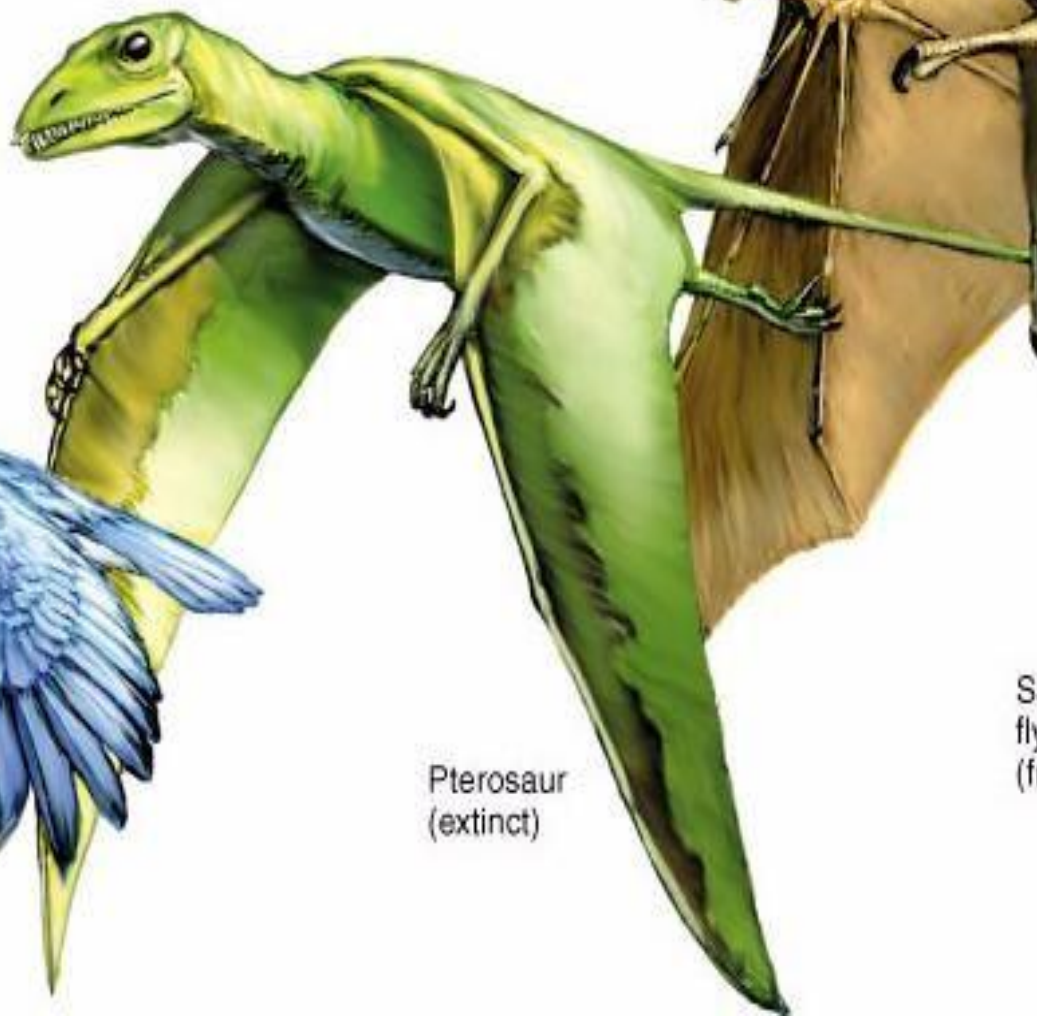
- Different types of changes:
 - Mutations
 - Recombination (contamination)
 - Accumulates into extremely complicated structures
 - Convergent evolution (coincidental emergence of variants)

Taking Flight

To take to the air, three very different vertebrates lightened bones and transformed hands into wings.



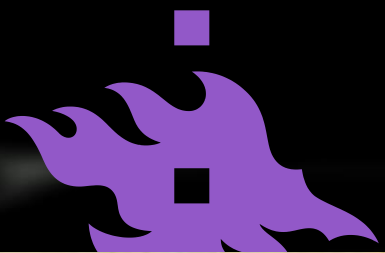
Western bluebird



Pterosaur (extinct)



Samoan flying fox (fruitbat)



Acts 9:21

ὅυτις τοῦ θεοῦ ἐξίσταν
τοσδε πάντες οἱ ἀκού
οντες καὶ ἐλεγον οὐχ ὅυ

ἐξίσταντοσδε πάντες
ἐλεγον οὐχ ὅυ

ὅυτις τοῦ θεοῦ ἐξίσταντο, λέπαμ τώ και β
λαρομ· οὐχ οὐτόσδε ἀριμόπορ θήσασ β μι μ

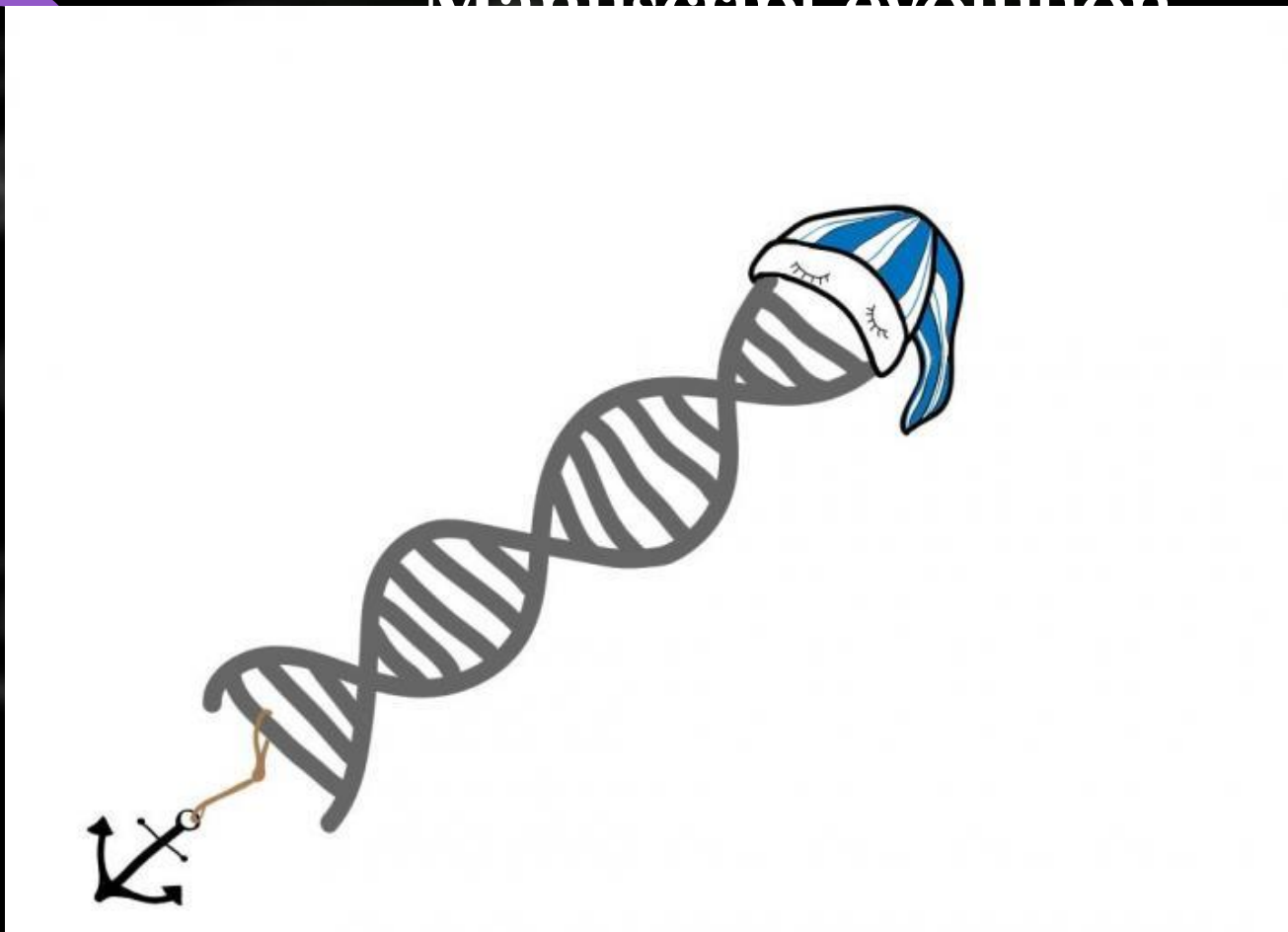


Manuscript evolution

- Different types of changes:
 - Mutations
 - Recombination (contamination)
 - Accumulates into extremely complicated structures
 - Convergent evolution (coincidental emergence of variants)
- And more!!!
 - Dormant genes (variants)



Manuscript evolution

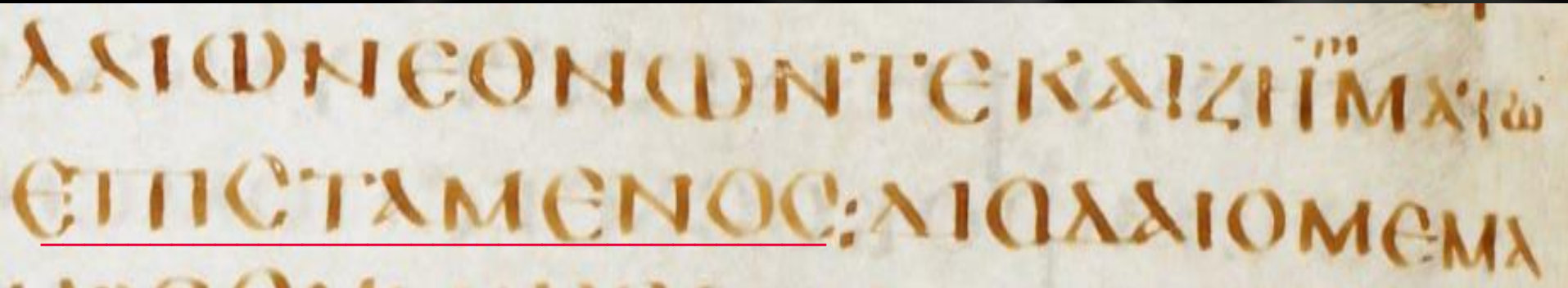
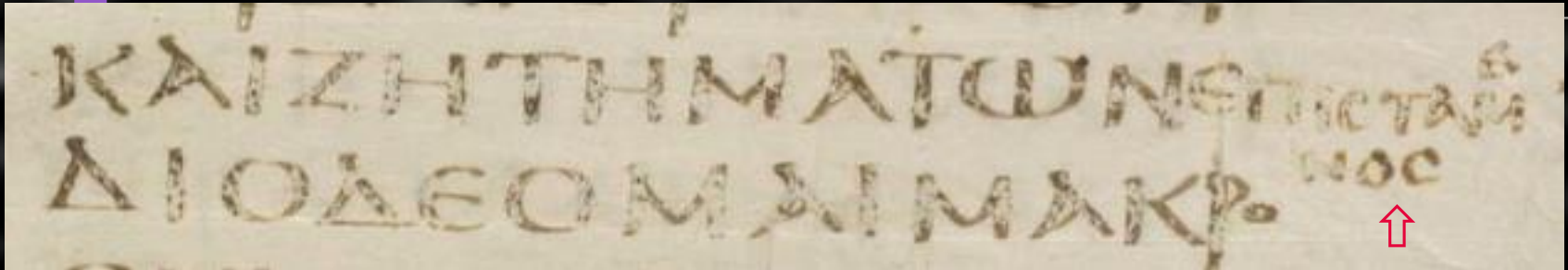


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– Competition



Dormant variants in Acts 26:3





Manuscript evolution

- Types of changes:
 - Mutations
 - Recombination (contamination)
 - Accumulates into extremely complicated structures
 - Convergent evolution (coincidental emergence of variants)
- And more!!!
 - Dormant variants
 - Self-correcting mechanisms
 - Survival of the fittest



5:38. As for the present case,

I tell you,
keep away
from these men
and leave them alone,

because if this plan
or this this work
should be of men,
It will be overthrown
39. But if it is of God,
you will not be able to overthrow it

You may even be
found fighting
against God!



5:38. As for the present case,

I tell you,
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from these men
and leave them alone,

because if this plan
or this this work
should be of men,
It will be overthrown
39. But if it is of God,
you will not be able to overthrow it

thus, keep away from
these men
You may even be
found fighting
against God!



5:38. As for the present case,

I tell you,
keep away
from these men
and leave them alone,
do not defile your hands
because if this plan
or this this work
should be of men,
It will be overthrown
39. But if it is of God,
you will not be able to overthrow it
neither you nor kings
nor tyrants
thus, keep away from
these men
You may even be
found fighting
against God!



5:38. As for the present case,
they are brethren,
I tell you,
keep away
from these men
and leave them alone,
do not defile your hands
because if this plan
or this this work
should be of men,
It will be overthrown
39. But if it is of God,
you will not be able to overthrow it
neither you nor kings
nor tyrants
thus, keep away from
these men
You may even be
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against God!



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39. But if it is of God,
you will not be able to overthrow it
**neither you nor kings
nor tyrants**
thus, keep away from
these men
You may even be
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against God!



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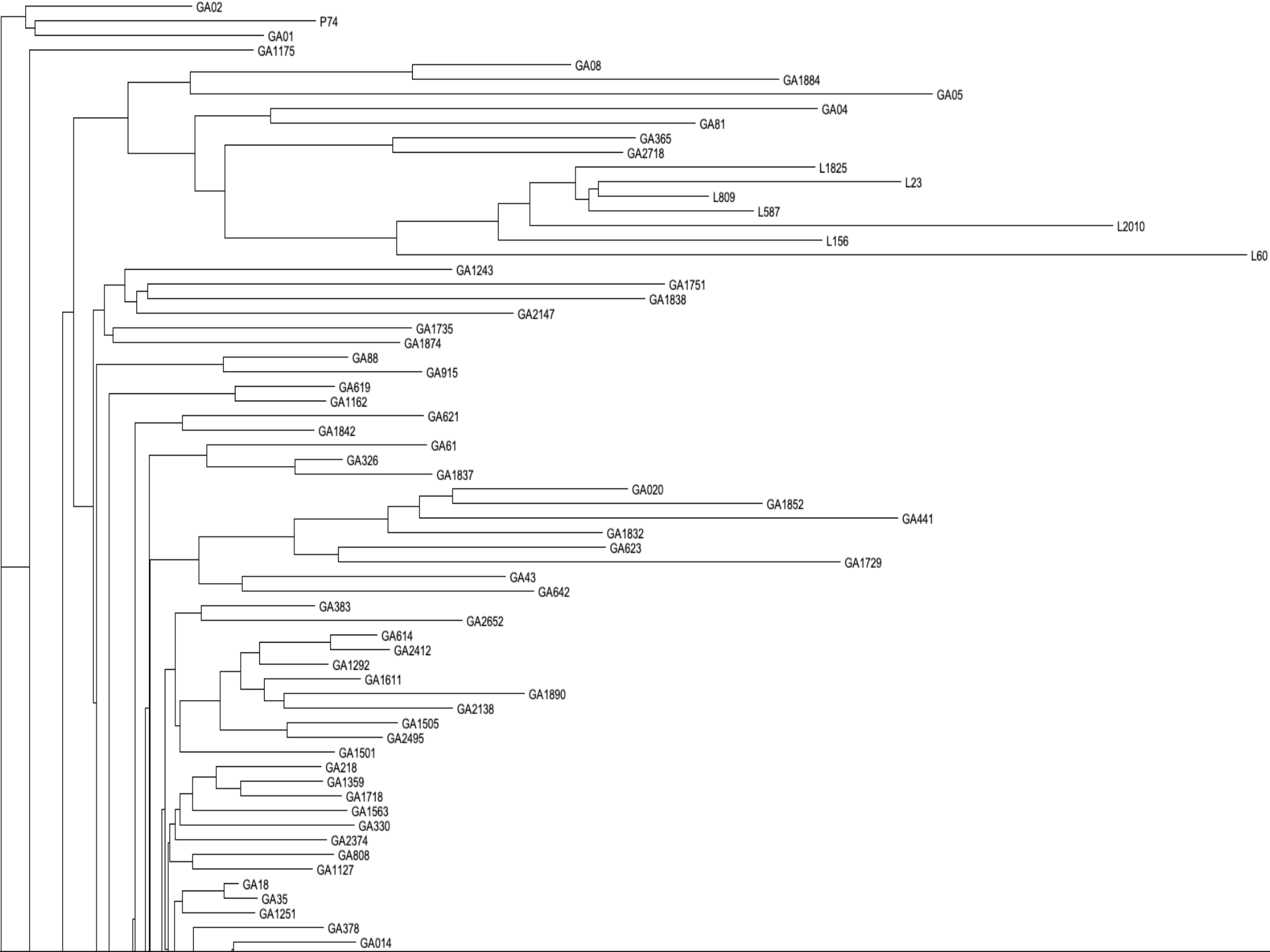
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Conclusions

- Analogy between biological and textual evolution is real!
 - Theoretical implications
 - Challenges conventional theories
 - Raises new questions
 - The role of chance (or HS)
 - Methodological possibilities
 - Phylogenetics





Questions....?
