## Plotting Medieval Polyphony: an enchiriadis Tonnetz





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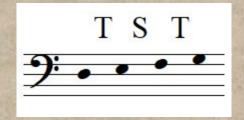
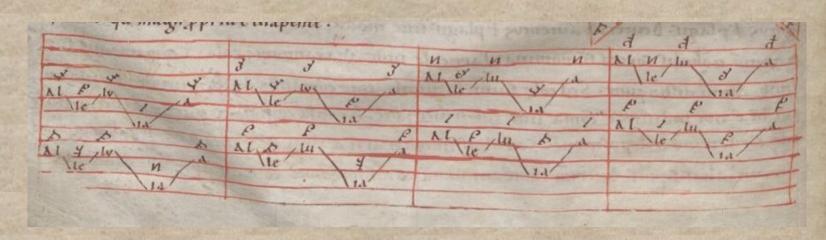




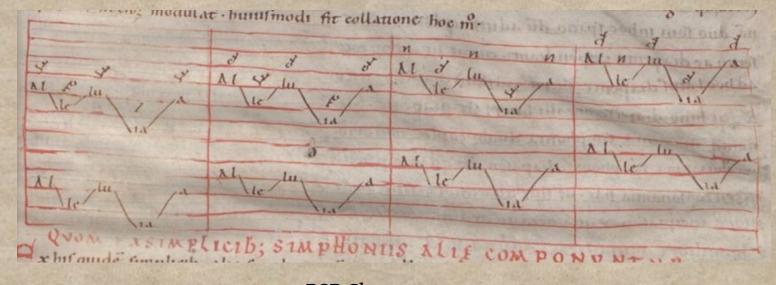
Figure 1: the enchiriadis gamut as a series of disjunct TST tetrachords



BSB Clm 14372, 3v



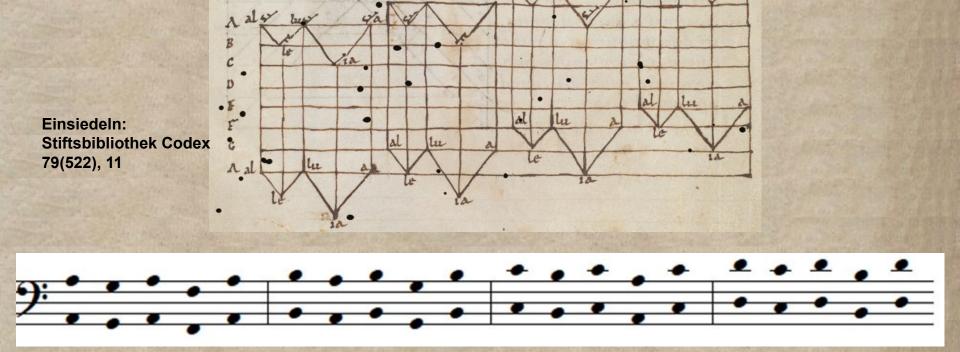
Figure 2: consonant correspondence at the fifth, ME Ch. 10



BSB Clm 14372, 4r



Figure 3: problematic correspondence at the octave, ME Ch. 10



latione hocmodo:

Figure 3: problematic correspondence at the octave, ME Ch. 10

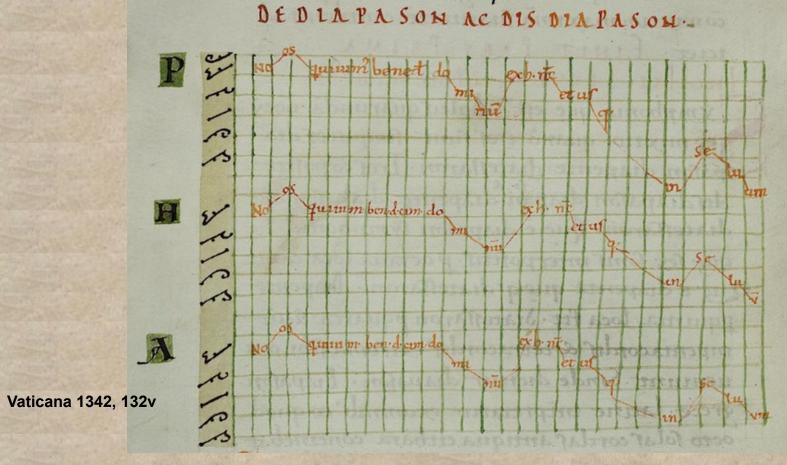


Figure 4: duplicating daseia for each voice

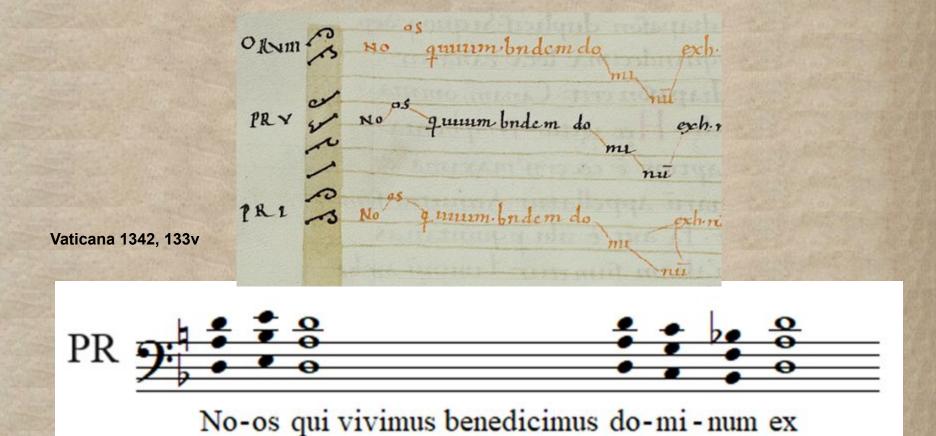
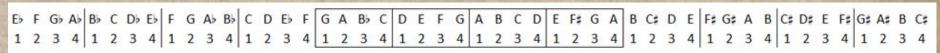


Figure 5: organum at the fifth plus octave; SE, Part II



Figure 6: organum at the fourth; ME, Ch. 13

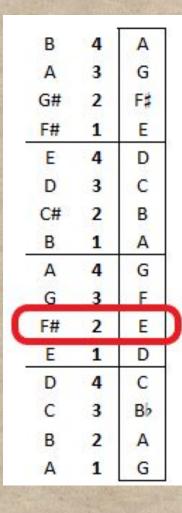
## original gamut boxed



←the ends wrap around

the ends wrap around →

Figure 7: "vertical" continuation of the enchiriadis gamut



vitia at X



do re me fa re mi?

Figure 8: parallel band of pitch space (left), original *enchiriadis* gamut (boxed right)

C#         B         4         A         G         F         Eb         Db           B         A         3         G         F         Eb         Db           A#         G#         2         F#         E         D         C         Bb           G#         F#         1         E         D         C         Bb         Ab         Gb           E         D         3         C         Bb         Ab         Gb         F           D#         C#         2         B         A         G         F         Eb           B         A         4         G         F         Eb         Db         Cb           B         A         4         G         F         Eb         Db         Cb           G#         F#         2         E         D         C         Bb         Ab           E         D         4         C         Bb         Ab         Gb         Fb           C#         B         2         A         G         F         Eb           D         C         B         A         G         F         Eb
A#       G#       2       F#       E       D       C       Bb         G#       F#       1       E       D       C       Bb       Ab         F#       E       4       D       C       Bb       Ab       Gb         E       D       3       C       Bb       Ab       Gb         D#       C#       2       B       A       G       F       Eb         B       A       4       G       F       Eb       Db         A       G       3       F       E       Db       Cb         B       F#       E       D       C       Bb       Ab         F#       E       1       D       C       Bb       Ab       Gb         F#       E       D       C       Bb       Ab       Gb       Fb         C#       B       2       A       G       F       Eb
G#         F#         1         E         D         C         Bb           F#         E         4         D         C         Bb         Ab           E         D         3         C         Bb         Ab         Gb           D#         C#         2         B         A         G         F           C#         B         1         A         G         F         Eb           B         A         4         G         F         Eb         Db           A         G         3         F         E         Db         Cb           G#         F#         2         E         D         C         Bb         Ab           F#         E         1         D         C         Bb         Ab         Gb           D         C         3         Bb         Ab         Gb         Fb           C#         B         2         A         G         F         Eb
F#         E         4         D         C         Bb         Ab           E         D         3         C         Bb         Ab         Gb           D#         C#         2         B         A         G         F           C#         B         1         A         G         F         Eb           B         A         4         G         F         Eb         Db           A         G         3         F         E         Db         Cb           G#         F#         2         E         D         C         Bb         Ab           F#         E         1         D         C         Bb         Ab         Gb           D         C         3         Bb         Ab         Gb         Fb           C#         B         2         A         G         F         Eb
E D 3 C Bb Ab Gb  D# C# 2 B A G F  C# B 1 A G F Eb  B A 4 G F Eb Db  A G 3 F E Db Cb  G# F# 2 E D C Bb  F# E 1 D C Bb Ab  D C 3 Bb Ab Gb  C# B 2 A G F Eb
D#         C#         2         B         A         G         F           C#         B         1         A         G         F         Eb           B         A         4         G         F         Eb         Db           A         G         3         F         E         Db         Cb           G#         F#         2         E         D         C         Bb         Ab           F#         E         1         D         C         Bb         Ab         Gb           D         C         3         Bb         Ab         Gb         Fb           C#         B         2         A         G         F         Eb
C#         B         1         A         G         F         Eb           B         A         4         G         F         Eb         Db           A         G         3         F         E         Db         Cb           G#         F#         2         E         D         C         Bb           F#         E         1         D         C         Bb         Ab         Gb           E         D         4         C         Bb         Ab         Gb         Fb           D         C         3         Bb         Ab         Gb         Fb           C#         B         2         A         G         F         Eb
B A 4 G F Eb Db A G 3 F E Db Cb G# F# 2 E D C Bb F# E 1 D C Bb Ab D C 3 Bb Ab Gb C# B 2 A G F Eb
A G 3 F E Db Cb G# F# 2 E D C Bb F# E 1 D C Bb Ab E D 4 C Bb Ab Gb D C 3 Bb Ab Gb Fb C# B 2 A G F Eb
G#         F#         2         E         D         C         Bb           F#         E         1         D         C         Bb         Ab           E         D         4         C         Bb         Ab         Gb           D         C         3         Bb         Ab         Gb         Fb           C#         B         2         A         G         F         Eb
F#         E         1         D         C         Bb         Ab           E         D         4         C         Bb         Ab         Gb           D         C         3         Bb         Ab         Gb         Fb           C#         B         2         A         G         F         Eb
E D 4 C Bb Ab Gb D C 3 Bb Ab Gb Fb C\$ B 2 A G F Eb
D C 3 Bb Ab Gb Fb C B 2 A G F Eb
C\$ B 2 A G F E
B A 1 G F E D

←the ends wrap around

original gamut boxed

the ends wrap around →

Figure 9: central segment of the *eT*, ordinal pitch position aligned (bold)

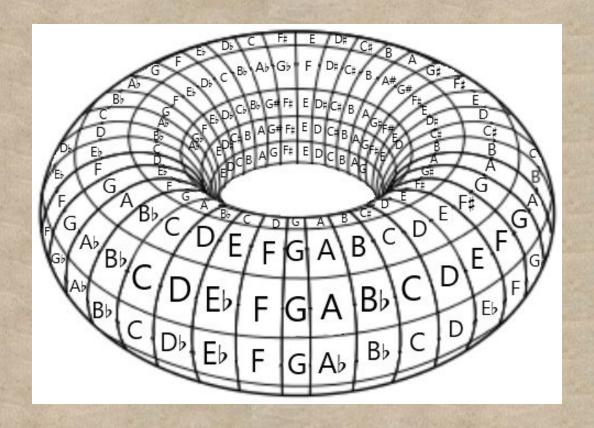


Figure 10: an enchiriadis Tonnetz

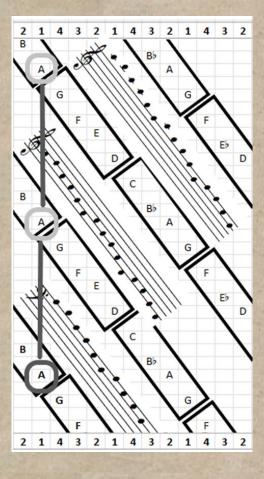


Figure 11: parallel organum at the octave on the *eT*