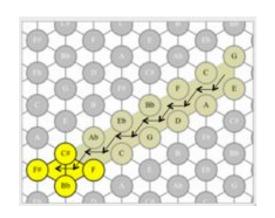
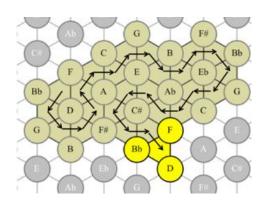
Math'n Pop



PSL – 22-27 février 2016



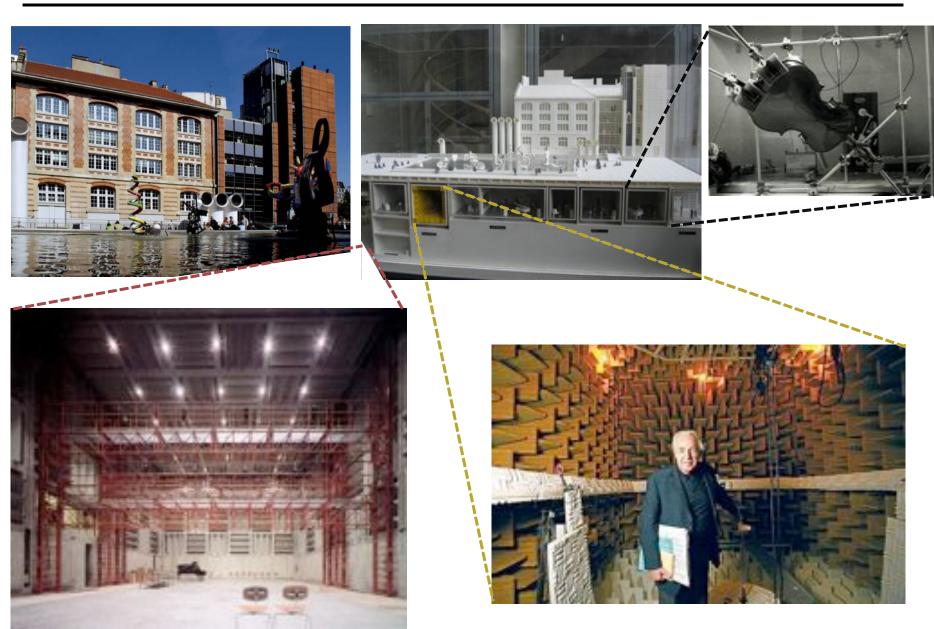
Moreno Andreatta
Equipe Représentations Musicales
IRCAM / CNRS UMR 9912 / UPMC
Moreno.Andreatta@ircam.fr







La recherche musicale et scientifique à l'IRCAM...



www.ircam.fr

... entre musique savante et popular music



MusiqueLab 2



OMAX (logiciel d'improvisation)

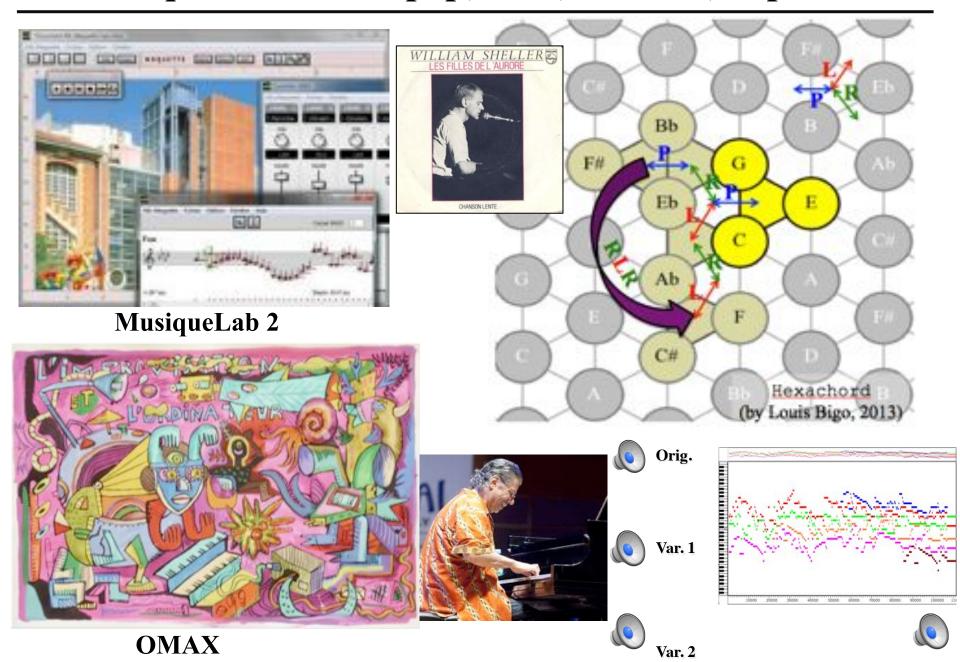




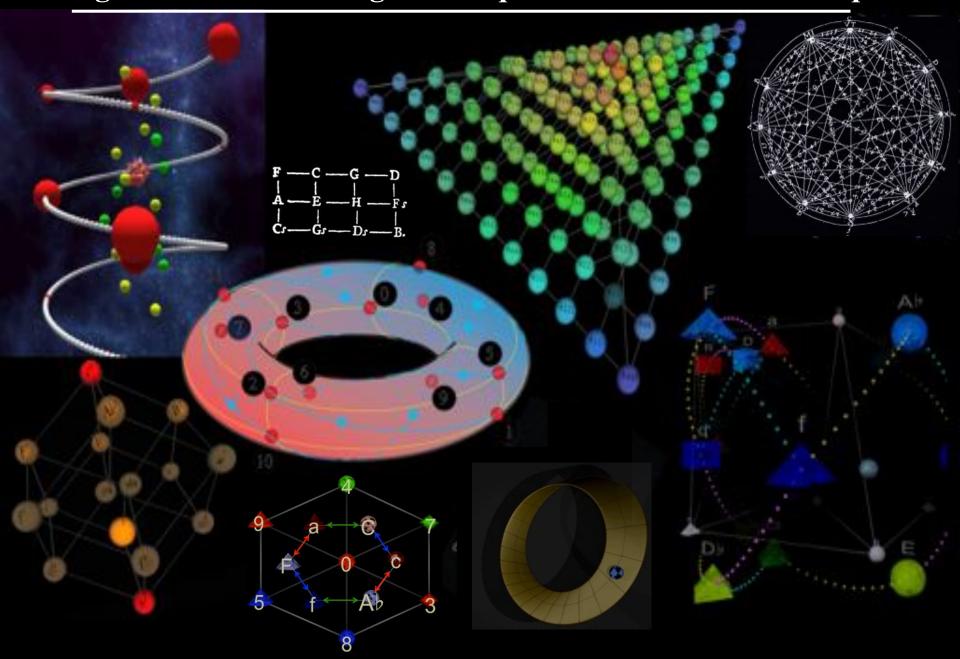


www.ircam.fr

Les musiques actuelles : pop, rock, chanson, improvisation



La galaxie des modèles géométriques au service de la musique



Canons énigmatiques chez Bach et géométrie







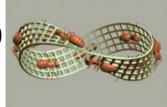


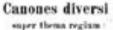
Canons énigmatiques chez Bach et géométrie



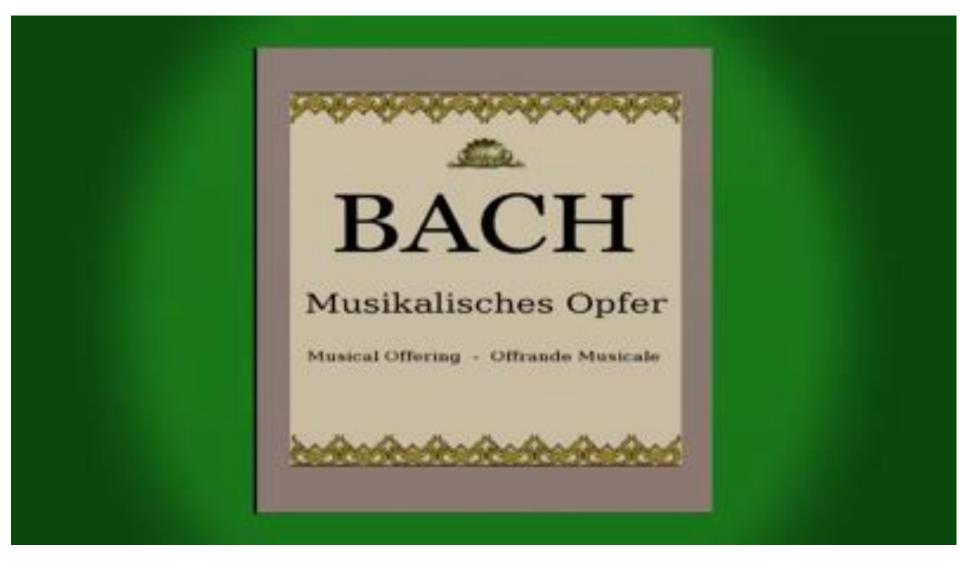


Ma fin est mon début (mais renversé!)









http://www.josleys.com/Canon/Canon.html



[min. 1'14"]



« Procédés algorithmiques » versus « musique algorithmique »



Here is your piece...

Your piece is composed of the following measures:

MINUET:

1 84 114 53 28 37 106 100 35 139 150 29 137 115 44 93

TRIO:

18 3 16 68 4 27 52 80 11 20 93 48 12 23 78 21





(http://sunsite.univie.ac.at/Mozart/dice/)

« Procédés algorithmiques » versus « musique algorithmique »



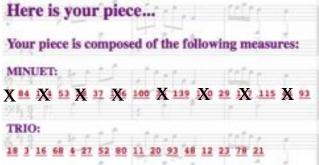






La substitution (ou copier-coller...)





Here is your piece...

Your piece is composed of the following measures:

MINUET:

96 X 121 X6 80 X 110 X 25 X 108 1X 112 X 173 X2

TRIO:

72 82 16 51 65 27 26 61 9 92 24 84 10 23 78 10

La substitution (ou copier-coller...)





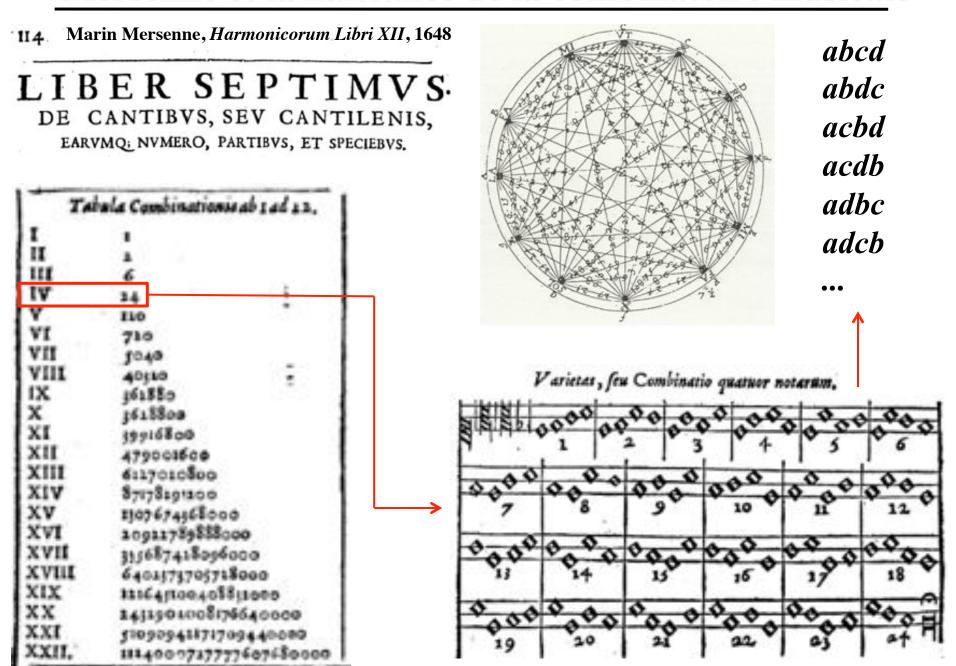


La superposition « non-cacophonique »

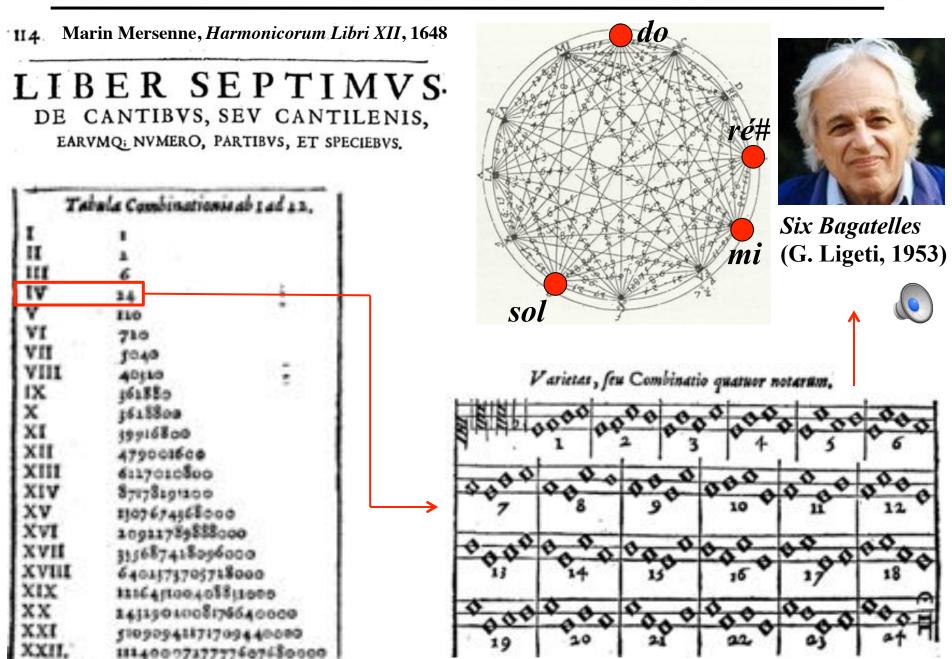




Mersenne et la naissance de la combinatoire musicale



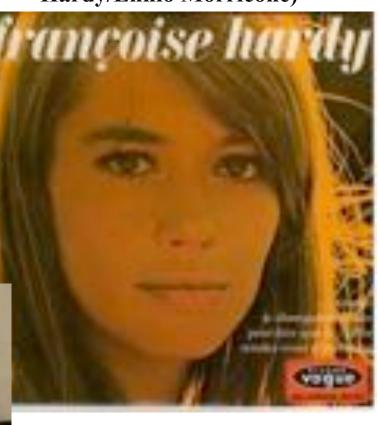
Mersenne et la naissance de la combinatoire musicale



Chansons permutationelles

Se telefonando, 1966 (Maurizio Costanzo/ Ennio Morricone). Voix : Mina Je changerais d'avis, 1966 (Françoise Hardy/Ennio Morricone)







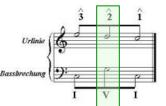


Ennio Morricone

Une chanson sur un seul accord...ou sur une seule note!



A. Celentano, « Mondo in MI settima » (1966 - Beretta, Mogol, **Del Prete**)



Una storia d'amore finisce una volta soltanto (M. Andreatta)

Una volta, una storia d'amore, soltanto una storia Una storia d'amore, soltanto una storia d'amore Una storia, soltanto una storia Una storia d'amore soltanto Una volta soltanto una storia d'amore soltanto

Un amore, soltanto una volta, soltanto una storia d'amore soltanto

Una storia d'amore, soltanto una volta una storia

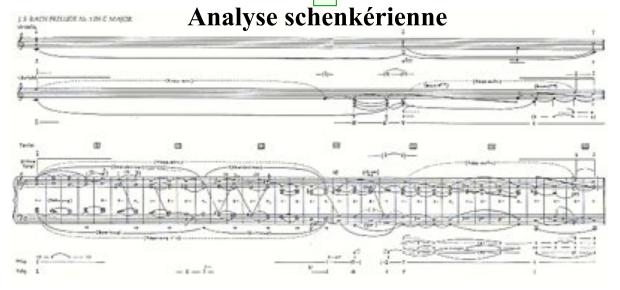
Un amore, una volta soltanto

Un amore finisce soltanto

Una volta, una storia d'amore finisce

Una volta soltanto

Una storia d'amore una volta soltanto finisce





Bassbrechung

Italo Calvino

Les contraintes dans l'art : l'OuLiPo (Ouvroir de Littérature Potentielle)



Cent mille milliards de poèmes, 1961

aviens encor de cette heure exercicahas la phine agitaient leurs drapeaux

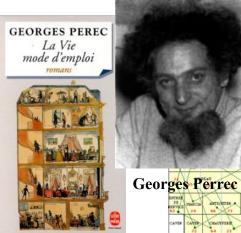
e pour nous distraire y plantions nos tréteaux

assibide que nos sur la banquise

e à Bosario fait une belle trotte

reson eut qui s'y pique s'y frotte

ion boit du maté l'on devient argentin



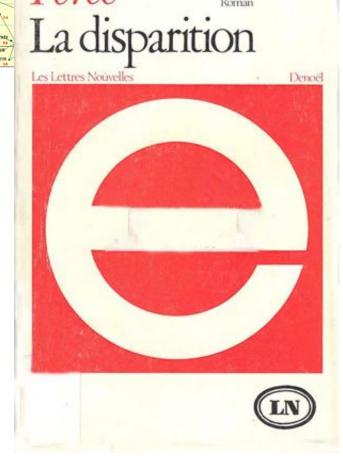
La vie mode d'emploi,



Raymond Queneau



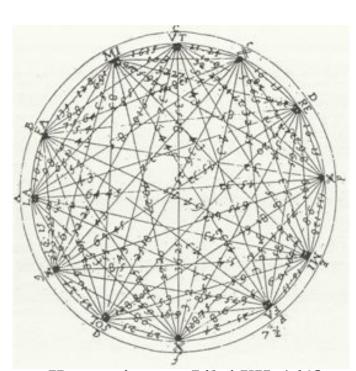
Italo Calvino Le Château des destins croisés, 1969



La représentation circulaire et ses mappings

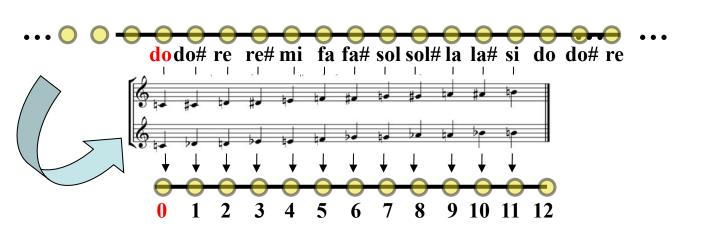


Marin Mersenne



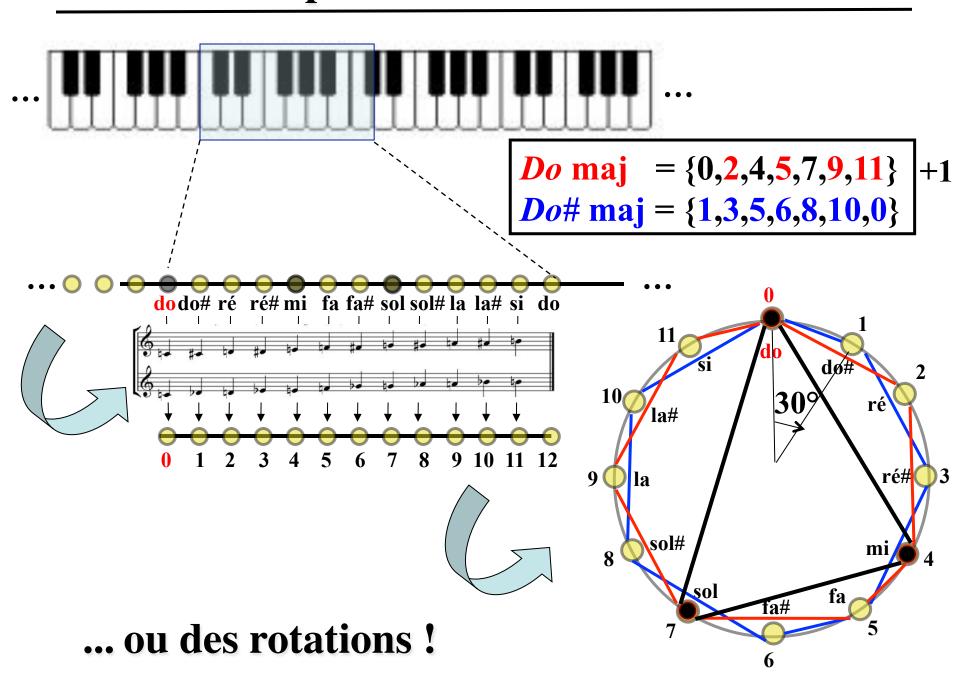
Harmonicorum Libri XII, 1648



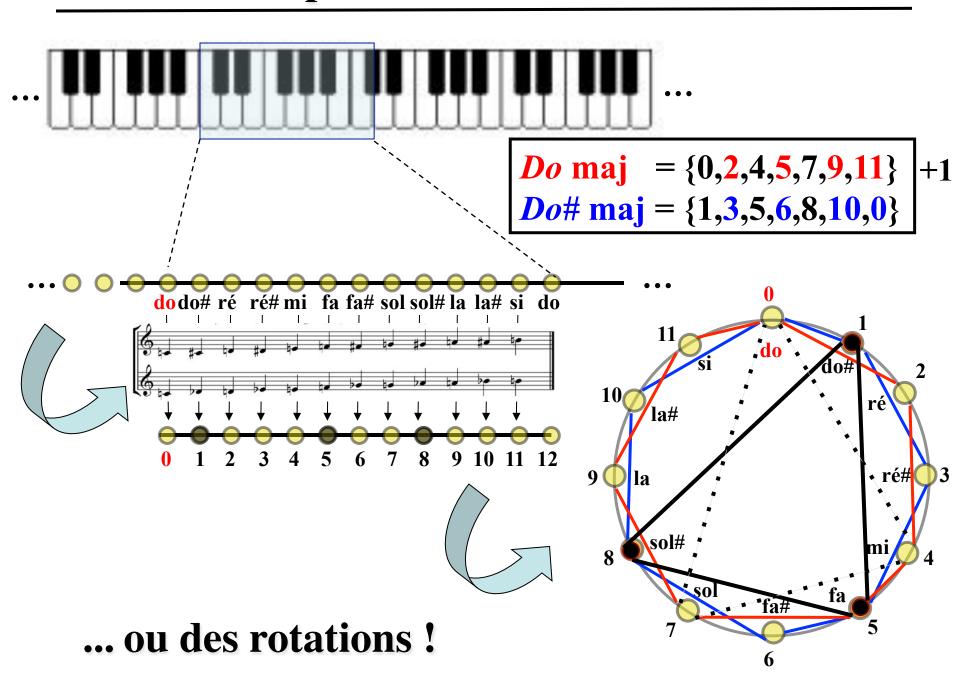




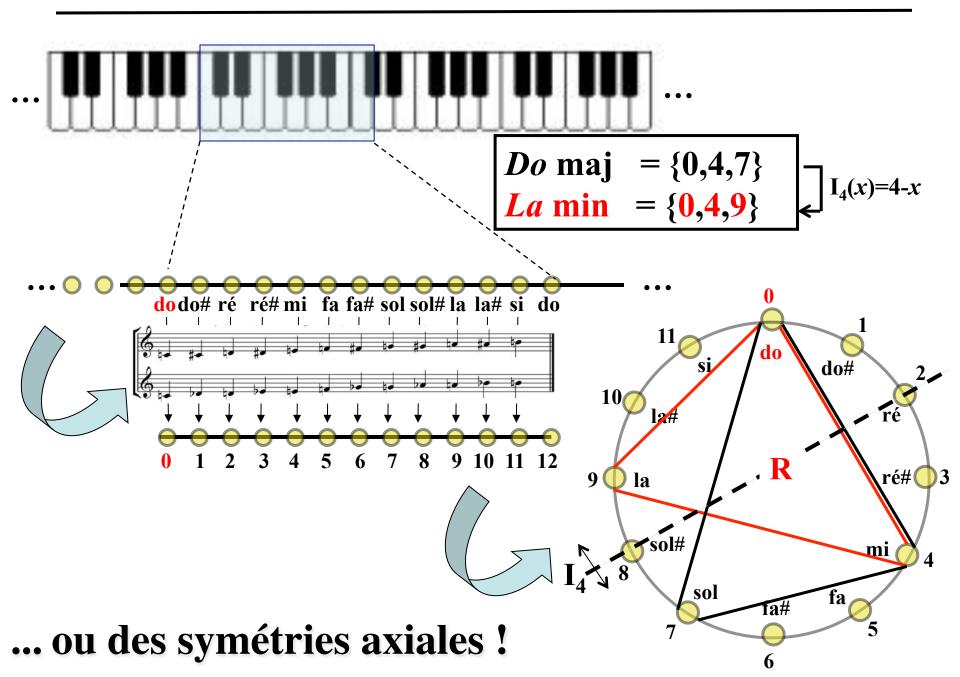
Les transpositions sont des additions...



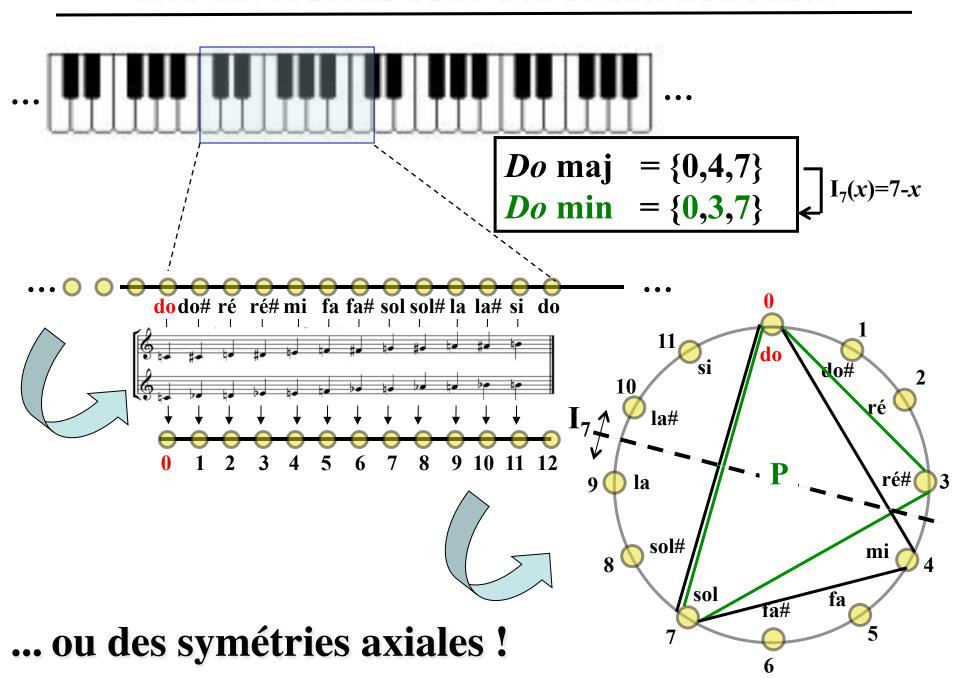
Les transpositions sont des additions...



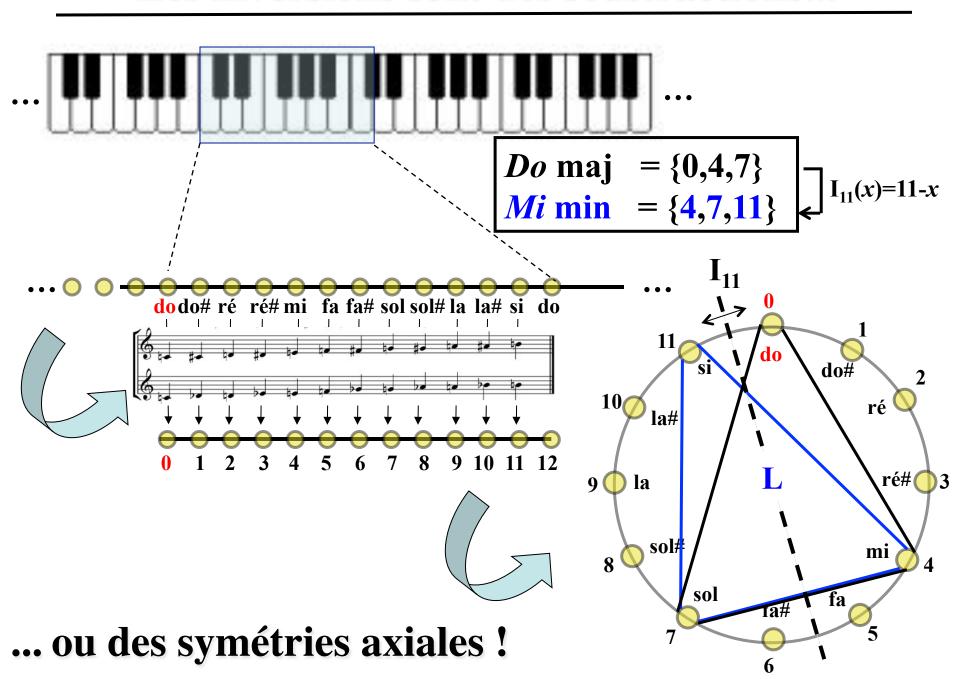
Les inversions sont des soustractions...



Les inversions sont des soustractions...



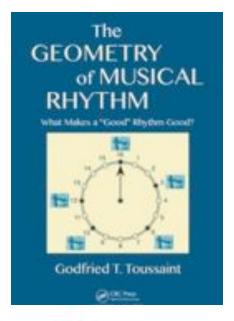
Les inversions sont des soustractions...

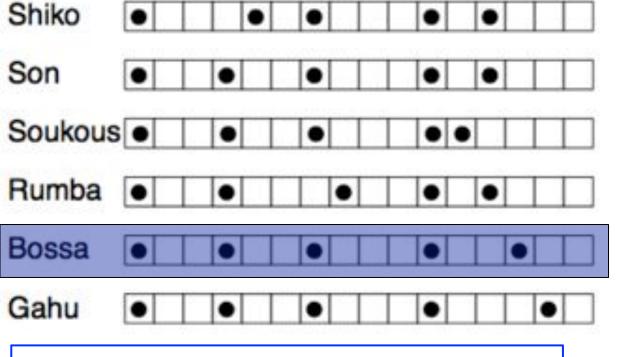


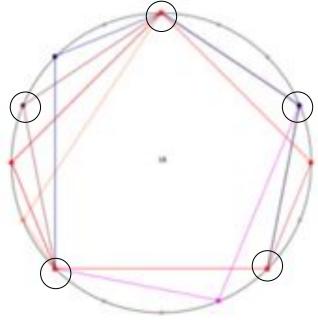
La géométrie du rythme musical









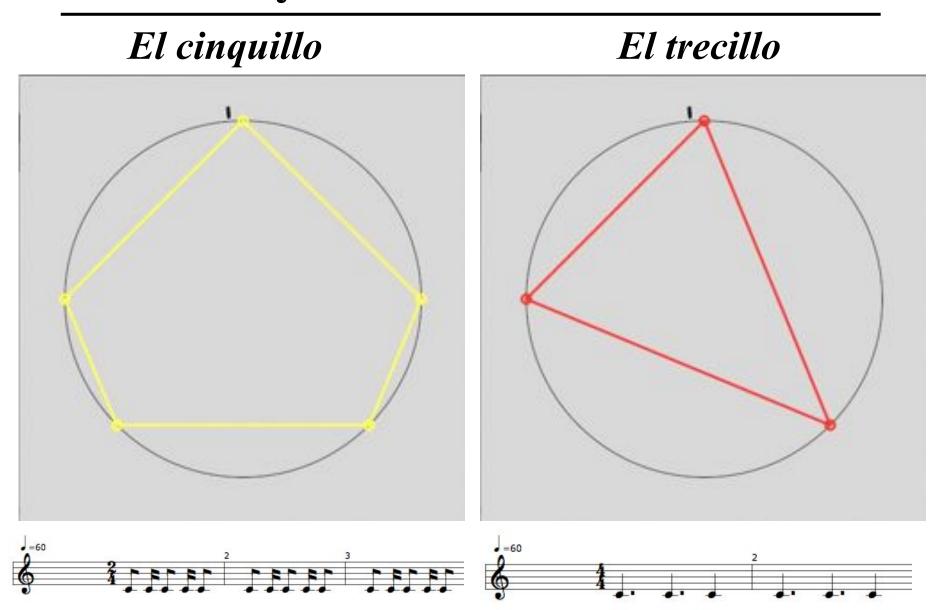


→ Quel est le rythme le plus régulier ?

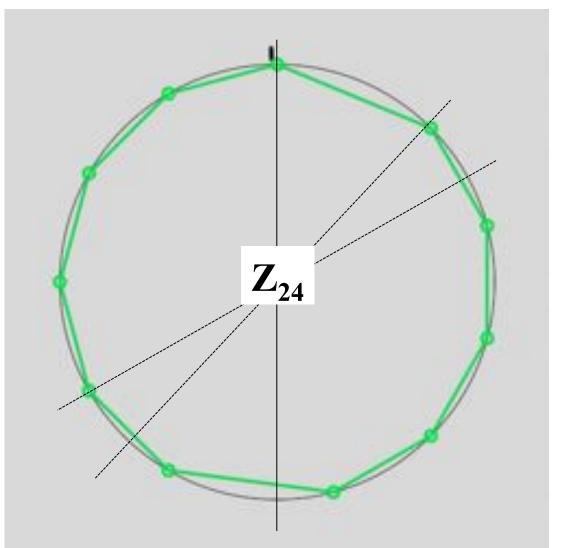


Mercredi 27.01.16 - HEMU - Les rythmes non-euclidiens

Rythmes afro-cubains



L'imparité rythmique et les musiques de tradition orale

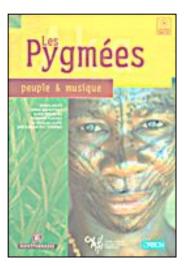


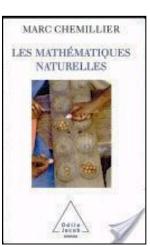






Marc Chemillier

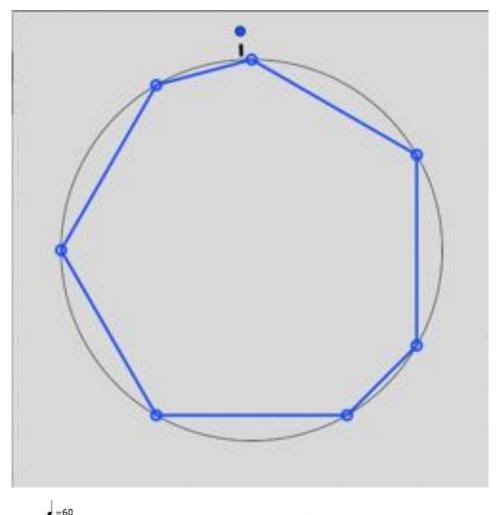


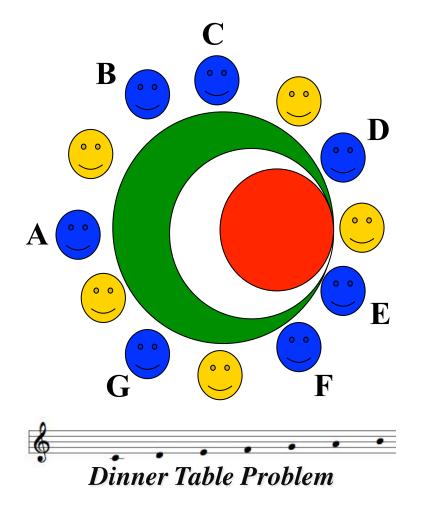


(3 2 2 2 2 3 2 2 2 2 2)

musimédiane
publiée avec le concours de la SFAM
revue audiovisuelle et multimédia d'analyse musicale

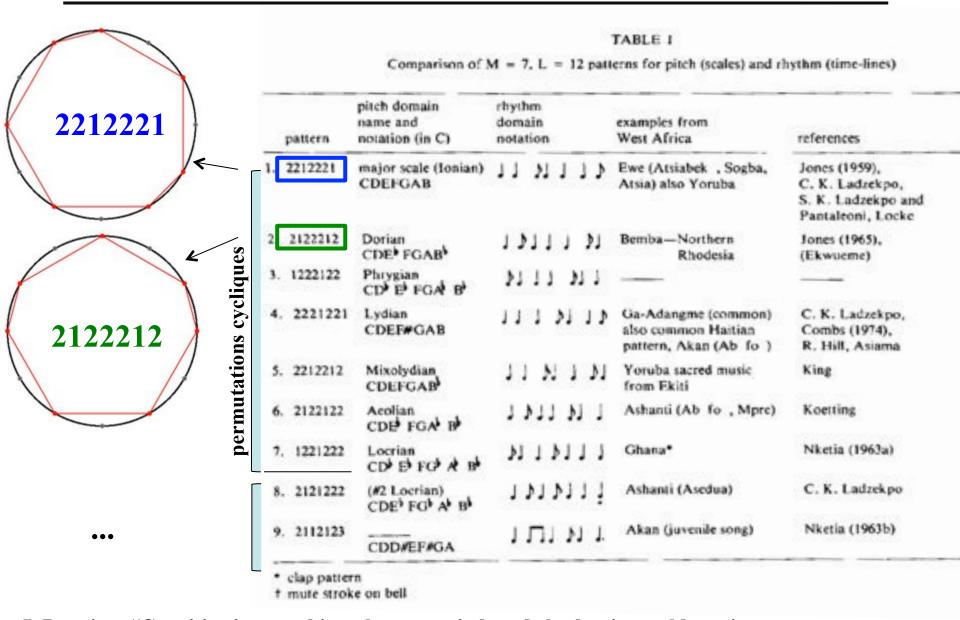
Isomorphisme hauteurs/rythmes







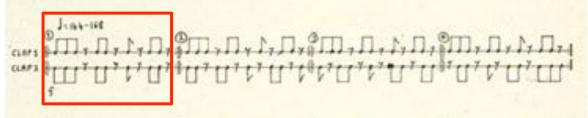
Isomorphisme cognitif entre hauteurs et rythmes



J. Pressing, "Cognitive isomorphisms between pitch and rhythm in world musics: West Africa, the Balkans and Western tonality", Studies in Music, 17, p. 38-61, 1983

CLAPPING MUSIC

FOR TWO PERFORMERS







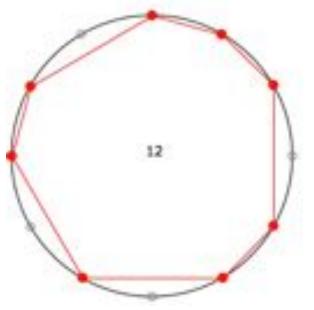
The purhosomer began and and with both performer in income at the 3. The ninesh of repeats of each bon should be shirt expert performed by the standard performed to some set shape, it is up to the second performed to some some one has to the east. The second purformed should take to tray in order characters where it is written, in or the first boat of each necessary leaf on the first beat of the group of three closes, in that his emperient aimage falls on a new boat of him undergoing pattern.

The cluster of a particular chapping smood, in, with copper or filet hands in left up to the performer whicheve trader in these pulses and blank to particular medium rates.

Clapping Music de Steve Reich (1972)

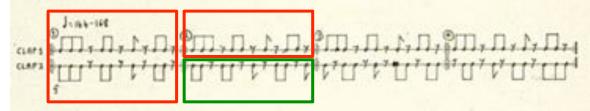
Mest Fiel 12/2 11 cycl 1/21

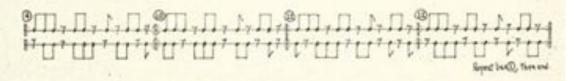




CLAPPING MUSIC

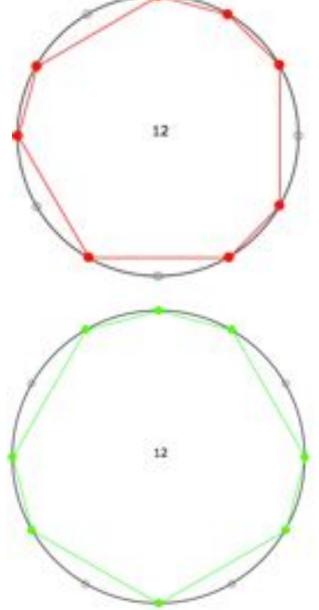
FOR TWO PERFORMERS





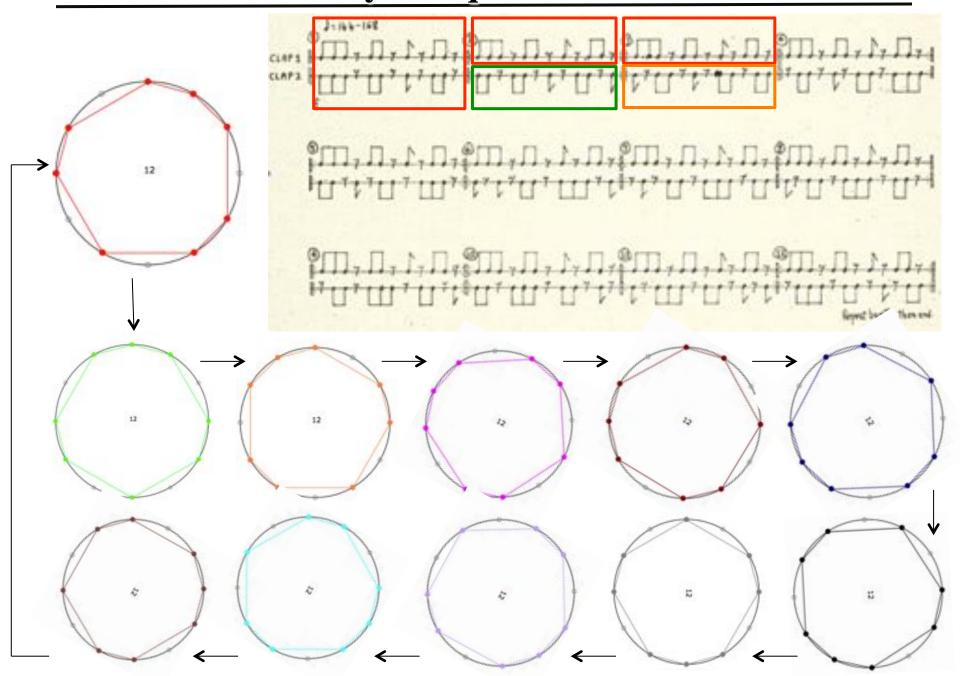
The preference began and and with buth preference in consum at the 3. The armite of repeats of each bar chiefle third at twelve armits per bur. Since the first performed part dues not change, it is up to the second particular to save time one has to the east. The second particular should take to tray in a non-hardwate change it is untilled, in on the first best of each account (and on the first best of the group of three clops), in that his enquired always falls on a new best of him becoming pattern.

The cluster of a particular chapping smood, is, with chapped or filet hands in left up to the particular chickens taken in these parts and bland to particular taken in return over the form of the particular pa



Clapping Music (1972)

Mar Fed 14/12 11-141



CLAPPING MUSIC

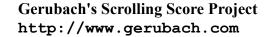
FOR TWO PERFORMERS



The pretonence began and and with both preformers in success at the 3. The available of each box should be found to track a party of each box should be found to track a party of the second preformer to some found on the second preformer to some found on the second preformer should take the problem to some it is untilled, in on the first boat of each measure (not on the first boat of each measure (not on the first boat of the group of fiver closes), in that his enquired assume fulls on a new boat of him michanging pattern.

The cluster of a particular chapping smood, in, with copper or filet bands in left up to the performer whicheve trader in these pulses and bland to perform one excellently rates.

Aur Fel 14/12



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