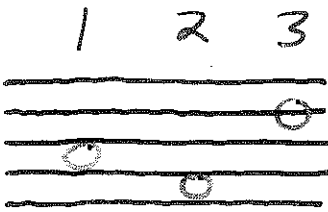
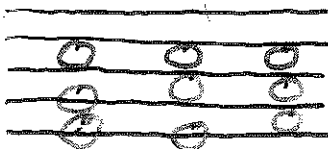
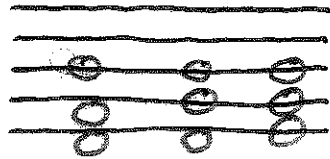


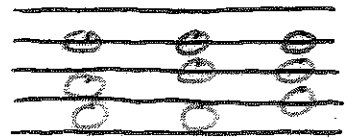
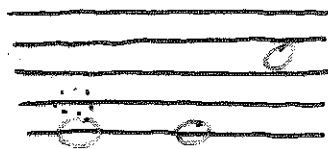
Dear Andrew
Here are some of the slides
I used in my talk
"Randomness in Music"
to the CERMA industrial
affiliates on 9 May 1990
- Jim Knuth

David Kraehenbuehl!

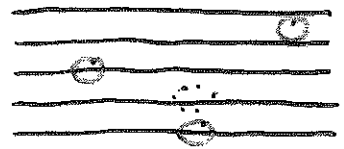




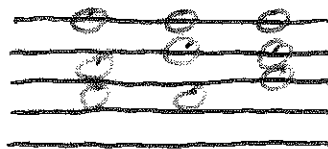
1 2 3



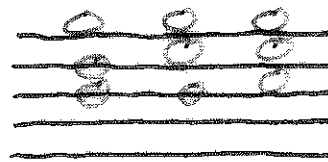
1 2 3



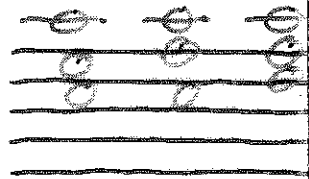
1 2 3



1 2 3



1 2 3



1 2 3



2502

$$\pi = 3 + .0010010000111110110101$$

3 : 1 2 1 2 3 2 3 1 2 3 2 1 3 2 1 3 1 3 2 3 2 3

$$e = 2 + .1011011111000010101000$$

2 : 1 2 1 3 1 3 2 1 3 2 1 2 3 1 2 1 2 1 2 1 2 3 1

$$\phi = 1 + .10011110001101110111001$$

1 : 3 1 2 1 3 2 1 2 3 1 3 2 3 2 1 3 1 3 2 1 3 1 2

harmony by TT

The image shows a handwritten musical score for guitar. It consists of two staves and a fretboard diagram. The top staff is in treble clef with a key signature of one sharp (F#). The bottom staff is in bass clef with a key signature of one sharp (F#). The music is divided into four measures. The top staff contains chords and single notes, while the bottom staff contains a single-note melody. Below the bottom staff, there are fretboard diagrams for each measure, represented by numbers 1, 2, and 3. The first measure has fret numbers 3, 1, 2, 1. The second measure has fret numbers 2, 3, 2. The third measure has fret numbers 3, 1. The fourth measure has fret numbers 2, 3.

harmony by e

The image shows a handwritten musical score for guitar. It consists of two staves and a fretboard diagram. The top staff is in treble clef with a key signature of one sharp (F#). The bottom staff is in bass clef with a key signature of one sharp (F#). The music is divided into four measures. The first two measures of the top staff contain chords with stems pointing up, and the bottom staff contains eighth notes. The last two measures of the top staff contain chords with stems pointing down, and the bottom staff contains quarter notes. A large bracket on the left side of the top staff indicates the first two measures. Below the top staff, there are numbers indicating fret positions: 2 1 2 1 for the first two measures, 3 1 3 for the third measure, and 2 1 3 2 for the fourth measure.

Measure	Top Staff (Chords)	Bottom Staff (Notes)	Fret Numbers
1	Chord with stems up	Quarter note	2
2	Chord with stems up	Quarter note	1
3	Chord with stems up	Quarter note	2
4	Chord with stems down	Quarter note	1
5	Chord with stems down	Quarter note	3
6	Chord with stems down	Quarter note	3
7	Chord with stems down	Quarter note	2
8	Chord with stems down	Quarter note	1
9	Chord with stems down	Quarter note	3
10	Chord with stems down	Quarter note	2

harmony by ϕ

Handwritten musical score for guitar, consisting of two staves (treble and bass) and a set of fingerings below the treble staff. The key signature is one sharp (F#) and the time signature is 7/8. The treble staff contains chords and a melody line, with a 'p' dynamic marking. The bass staff contains a single melodic line. Fingerings are indicated by numbers 1, 2, 3 below the notes.

Measure	1	2	3	4	5	6	7	8	9
Treble Staff	Chord	Chord	Chord	Chord	Chord	Chord	Chord	Chord	Chord
Bass Staff	Quarter note	Quarter note	Quarter note	Quarter note	Quarter note	Quarter note	Quarter note	Quarter note	Quarter note
Fingerings	1	3	1, 2	1	3	2	1	2	3, 1