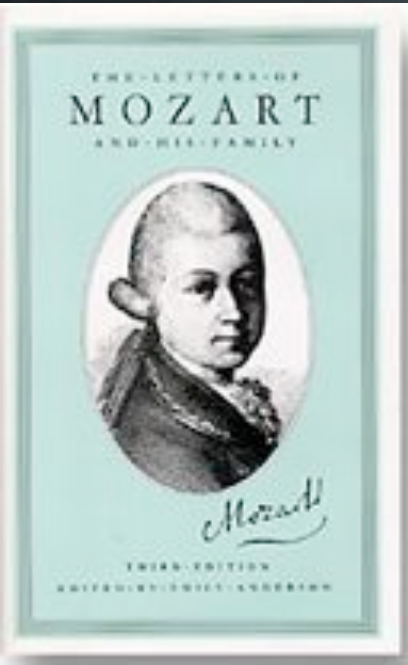




# Musikk, rytme og bevegelse

Hans T. Zeiner-Henriksen

e-mail: [h.t.zeiner-henriksen@imv.uio.no](mailto:h.t.zeiner-henriksen@imv.uio.no)



“Just in the middle of the first Allegro there was a passage which I felt sure must please. The audience were quite carried away – and there was a tremendous burst of applause. But as I knew, when I wrote it, what effect it would surely produce, I had introduced the passage again at the close – when there were shouts of ‘da capo’.”

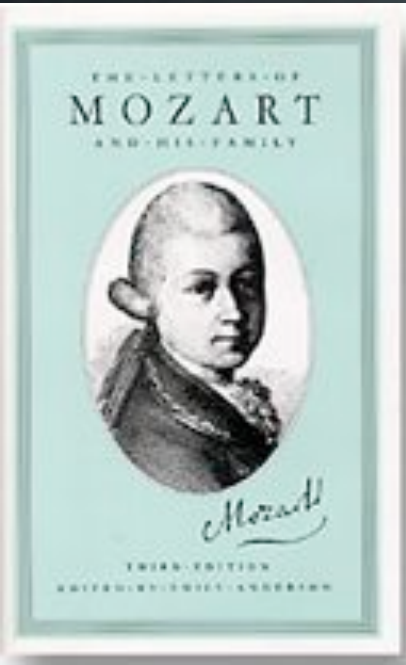
Anderson, Emily, 1966, *The Letters of Mozart and his Family. Chronologically arranged, translated and edited with an Introduction, Notes and Indexes.* (311 Mozart to his Father) P. 558.

The Orchestra of the Eighteenth Century, conducted by Frans Brüggen:

Wolfgang Amadeus Mozart: Symphony No. 31 in D, KV 297 ‘Paris’, I Allegro assai

03:29 - 03:43





“The Andante also found favour, but particularly the last Allegro, because, having observed that all last as well as first Allegros begin here with all the instruments playing together and generally unisono, I began mine with two violins only, piano for the first eight bars – followed instantly by a forte; the audience, as I expected, said ‘hush’ at the soft beginning, and when they heard the forte, began at once to clap their hands.”

Anderson, Emily, 1966, *The Letters of Mozart and his Family*. Chronologically arranged, translated and edited with an Introduction, Notes and Indexes. (311 Mozart to his Father) P. 558.

The Orchestra of the Eighteenth Century, conducted by Frans Brüggen:

Wolfgang Amadeus Mozart: Symphony No. 31 in D, KV 297 ‘Paris’, III Allegro

0:00 - 0:27







David Sylvian: «Orpheus» 1986



Ke\$ha: Tic Toc



Thomas Eriksen



Lars Vaular

FRA TOPP 20, RÅDHUSPLASSEN, 2010





# The PoumTchak Pattern:

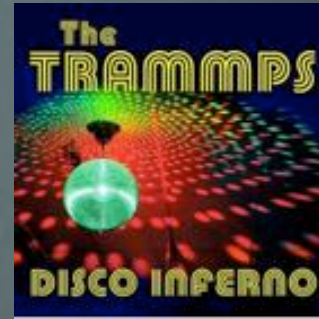
Correspondences Between  
Rhythm, Sound, and Movement  
in Electronic Dance Music



Thelma Houston:  
*Don't Leave Me This Way* (1976)



Cerrone:  
*Love in C minor* (1976)



Trammps:  
*Disco Inferno* (1976)



Baccara:  
*Yes Sir, I Can Boogie* (1977)



Donna Summer:  
*I Feel Love* (1977)



Dan Hartman:  
*Instant Replay* (1978)



Sylvester:  
*You Make Me Feel (Mighty Real)* (1978)



Gloria Gaynor:  
*I Will Survive* (1979)



Abba:  
*Gimme! Gimme! Gimme! (A Man after Midnight)* (1979)



Leftfield:  
"Open Up"  
(1995)

Hi-hat

Bass Drum

Chemical  
Brothers:  
"Star Guitar"  
(2002)

Les Rhythmes  
Digitales:  
"Jacues Your  
Body (Make  
Me Sweat)"  
(1999)



Daft Punk :  
"Around the  
World"  
(1996)

Basement  
Jaxx:  
"Red Alert"  
(1999)

Hi-hat

Bass Drum

Röyksopp:  
"Poor Leno"  
(2001)



Hi-hat

Bass Drum

The image shows two staves of musical notation. The top staff is labeled "Hi-hat" and contains a sequence of eight quarter notes. The notes are: a quarter rest, an eighth note with an 'x' (circled), a quarter note with an 'x' (circled), a quarter rest, an eighth note with an 'x' (circled), a quarter note with an 'x' (circled), a quarter rest, and an eighth note with an 'x' (circled). The bottom staff is labeled "Bass Drum" and contains four quarter notes, each circled. Vertical lines connect the circled eighth notes in the Hi-hat staff to the quarter notes in the Bass Drum staff.

## Svar på Undersøkelse om rytme og bevegelse

Dette er en undersøkelse i forbindelse med mitt avhandlingsarbeid. Jeg studerer sammenhenger mellom strukturer i musikk og bevegelsesmønstre.

Undersøkelsen utføres ideelt på følgende måte:

Sitt foran datamaskinen og sørg for at du har lyd - enten via øretelefoner eller høyttalere. (helst litt god lyd!)

1. Les spørsmålene.
2. Lytt til musikken og gjør deg kjent med lydene det spørres etter.
3. Start musikken på nytt og beveg hodet og/eller overkroppen uten å fokusere på spørsmålene.
4. Når en bevegelse er etablert fokuserer du på spørsmålene og bestemmer deg for svaralternativ.

Har du problemer med å forstå spørsmålet eller du ikke vet hva du skal svare benytter du Vet ikke-alternativet og går videre til neste spørsmål.

Lykke til!

Svarene i dette skjemaet er anonyme. Spørsmål markert med \* er obligatoriske. Du må sende inn besvarelsen eller lagre den i løpet av 60 minutter (hvis ikke nullstilles skjemaet og det du har fylt ut slettes).

### 1.

#### 1.1. Kjønn \*

- Mann  
 Kvinne

#### 1.2. Alder \*

### 2.

#### 2.1. Primært utøver av \*

- Pop/rock  
 Jazz  
 Folkemusikk  
 Klassisk  
 Annet

#### 2.2. Primært lytter av \*

- Pop/rock  
 Jazz

- Folkemusikk  
 Klassisk  
 Annet

#### 2.3. Lyttet/danset mye til house/dance/techno? \*

- Ja  
 Nei  
 Noe

### 3. Chuck Berry: Maybellene (1955)

#### 3.1. Lytt etter skarptrommeslaget. Beveg hodet og/eller overkroppen opp og ned. Går bevegelsen opp eller ned på skarptrommeslaget? \*

- Opp  
 Ned  
 Vet ikke

#### 3.2. Hvis du teller det du oppfatter er puls/telleenhet; ender skarptrommen på 2 og 4 eller mellom slagene (på og'n)? \*

- 2 og 4  
 Mellom slagene  
 Vet ikke

### 4. The Beginning of the End: "Funky Nassau" (1971)

#### 4.1. Lytt etter cymbalslaget som etter hvert repeteres mellom slagene. Beveg hodet og/eller overkroppen opp og ned. Går bevegelsen opp eller ned på cymbalslaget? \*

- Opp  
 Ned  
 Vet ikke

### 5. Daft Punk: "Phoenix" (1996)

#### 5.1. Beveg hodet og/eller overkroppen opp og ned. Går bevegelsen opp eller ned på basstrommeslaget? \*

- Opp  
 Ned  
 Vet ikke

#### 5.2. Fortsett bevegelsen når hi-hat kommer inn. Endrer bevegelsen retning? \*

- Ja  
 Nei  
 Vet ikke

#### 5.3. Går bevegelsen opp eller ned på hi-hatslaget? \*

- Opp  
 Ned  
 Vet ikke

#### 5.4. Opplevs bevegelsen annerledes etter at hi-hat kommer inn? \*

- Ja  
 Nei  
 Vet ikke

#### 5.5. Hvis ja, hvordan oppleves endringen?

- Sterkere dragning oppover  
 Sterkere dragning nedover  
 Kun sterkere, men ikke i noen spesiell retning  
 Svakere  
 Vet ikke

### 6. Chemical Brothers: "Star Guitar" (2002)

#### 6.1. Halvveis i dette utdraget kommer en tilsvarende hi-hat-figur (som i forrige eks.) inn. Beveg hodet og/eller overkroppen opp og ned. Beveger du det opp eller ned på hi-hat-slaget? \*

- Opp  
 Ned  
 Vet ikke

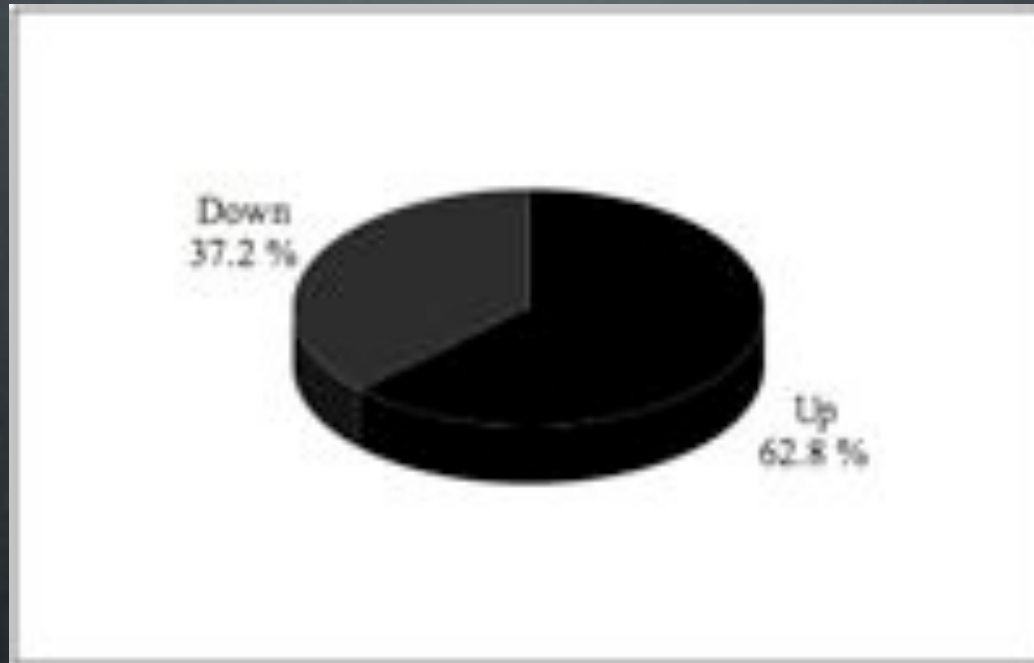
#### 6.2. Opplevs bevegelsen annerledes etter at hi-hat kommer inn? \*

- Ja  
 Nei  
 Vet ikke

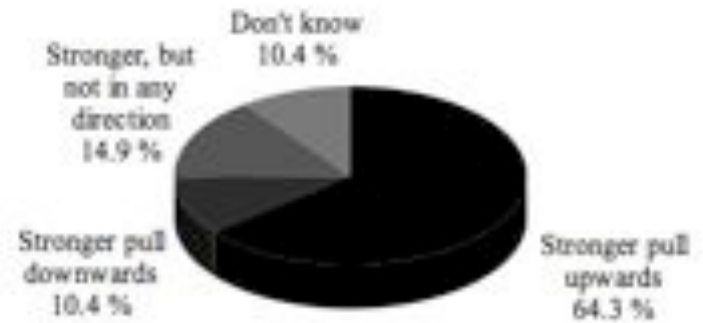
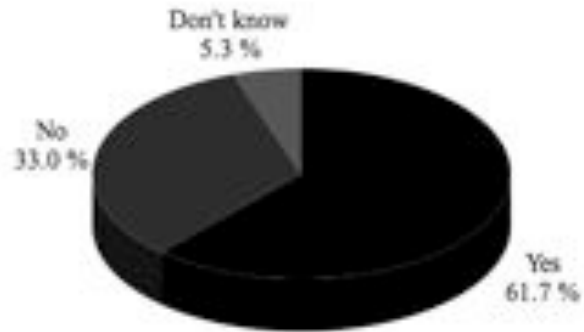
#### 6.3. Hvis ja, hvordan oppleves endringen?

- Sterkere dragning oppover

# Chuck Berry: “Maybellene” (1955)

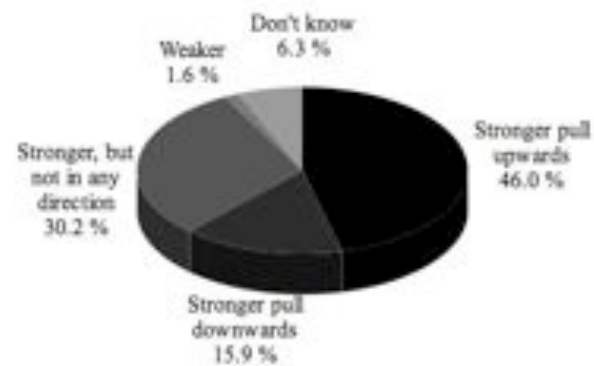
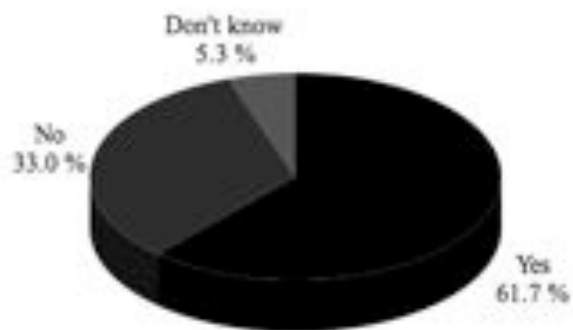


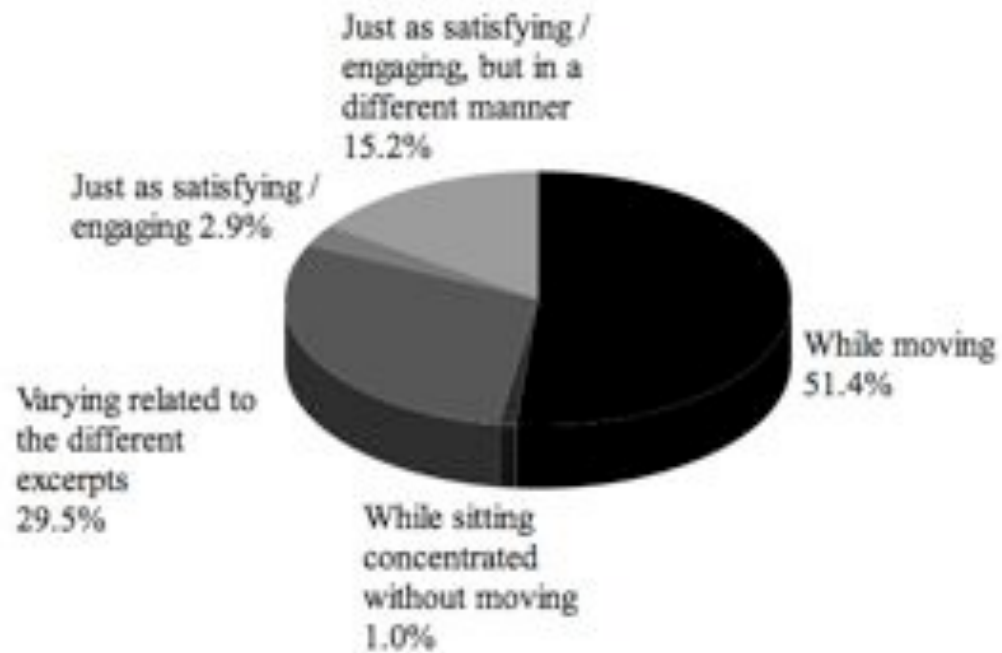
# Daft Punk: "Phœnix" (1996)





# Chemical Brothers: “Star Guitar” (2002)







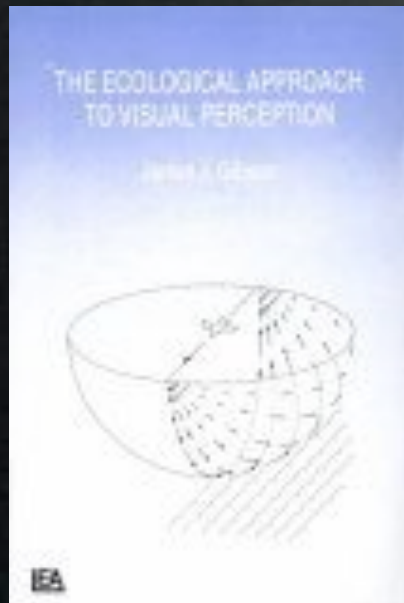
# Økologi-orientert persepsjonsteori



James J. Gibson (1904-1979)

\* Affordance

\* Persepsjon - aksjon

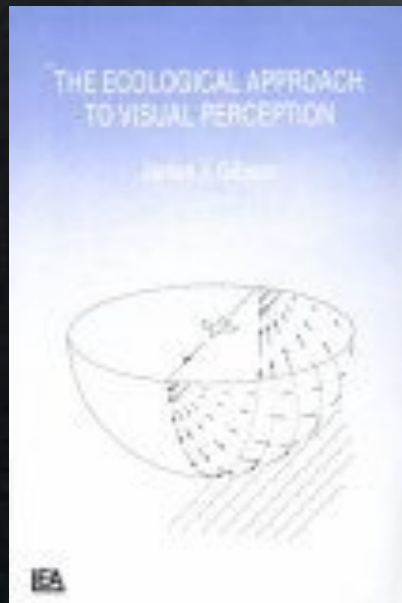


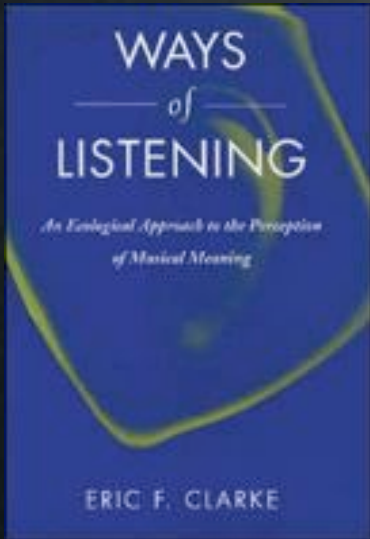
# Økologi-orientert persepsjonsteori



“Perceiving is an act, not a response, and act of attention, not a triggered impression, an achievement, not a reflex”

Gibson, J. J., 1979. *The Ecological Approach to Visual Perception*. P. 127.





“The interdependence between perception and action that is emphasized in ecological theory suggests that every perceptual experience will bear the trace of an action component. In the case of music, these traces are not hard to find – they are displayed overtly in the foot-tapping, head-nodding and body-swaying that are commonly observed in even the constrained circumstances of the Western art music tradition.”

(Eric F. Clarke, 2005, *Ways of Listening*, p.62)

# Entrainment

# Entrainment



Christian Huygens (1629-1695)



# Entrainment

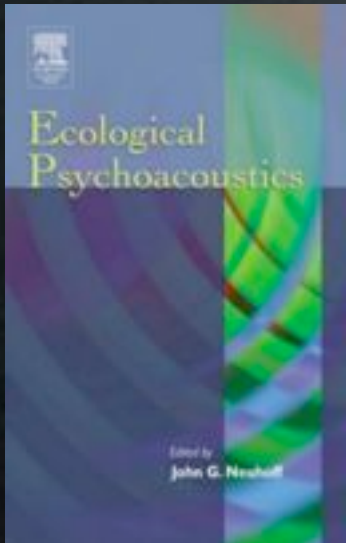
Én rytme drives eller synkes av en annen (ekstern).

Rytmen i musikken (ekstern rytme) setter i gang en rytme i kroppen (intern rytme).



## Mari Riess Jones

Rhythmic organisms interact, more or less effectively, with dynamic flow patterns of events via *entrainment*: An event's driving rhythm shapes an organism's driven rhythm through adaptations of period and phase. This entrainment process extends to rhythms that reflect the ebb and flow of attending energy.



Jones, M. R., 2004, Attention and timing. In J. G. Neuhoff (ed.): *Ecological psychoacoustics*. 49-85. P. 50

I hvilken grad tar/får de ulike lydene i musikken vår oppmerksomhet?

I hvilken grad tar/får de ulike lydene i musikken vår oppmerksomhet?



Mari Riess Jones:  
“Attention and Timing”

\* Oppmerksomhet

\* Forventning

Hvilke lyder i musikken er vesentlige?

\* Gjentakende lyder, toner, aksentueringer, etc. danner forventninger og former vår oppmerksomhet.

(♩ = 112)

standard pattern

Vocal  
ca - re a - bout your

Horn section

Guitar

Bass

Baryton sax

Drums

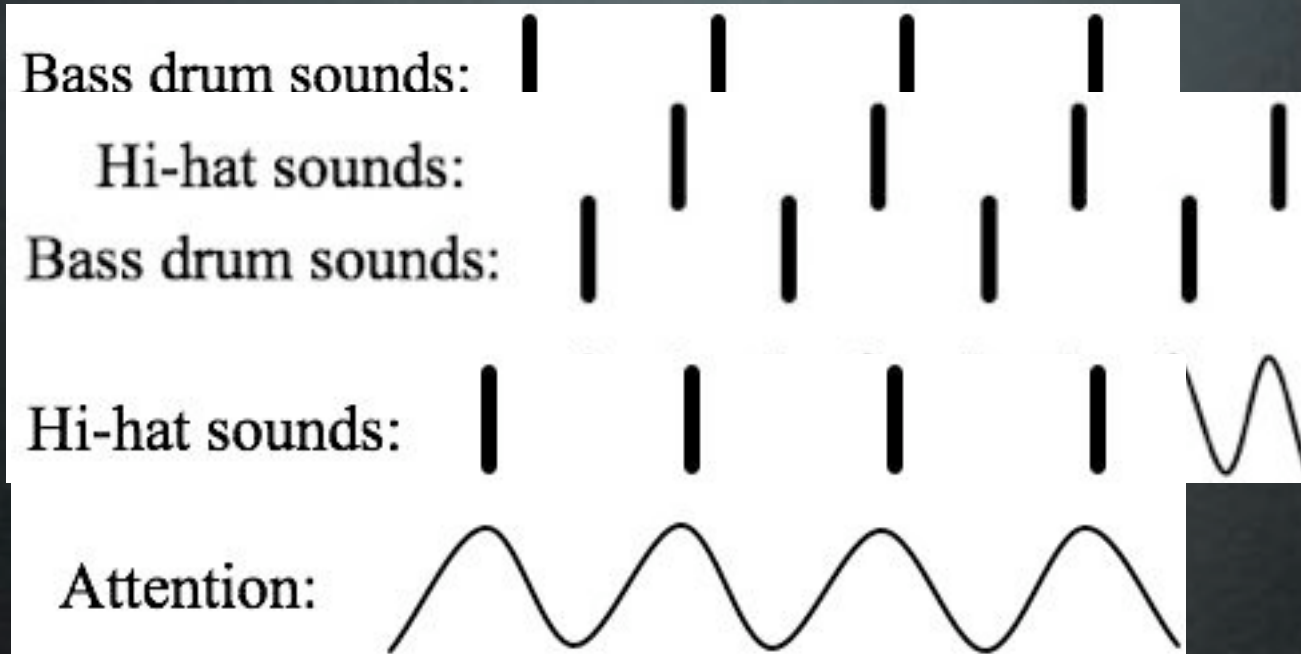
4:3

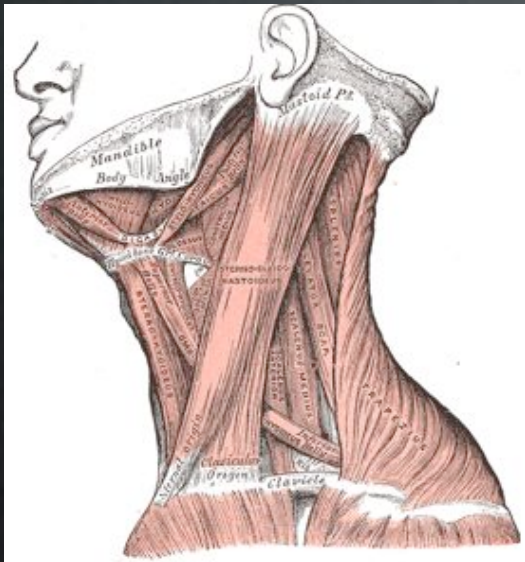
4:3

Groove from James Brown: Cold Sweat (1967) - tempo 112 bpm

From Anne Danielsen (2006): *Presence and Pleasure. The Funk Grooves of James Brown and Parliament*, p. 76.

# Oppmerksomhetspunkter:





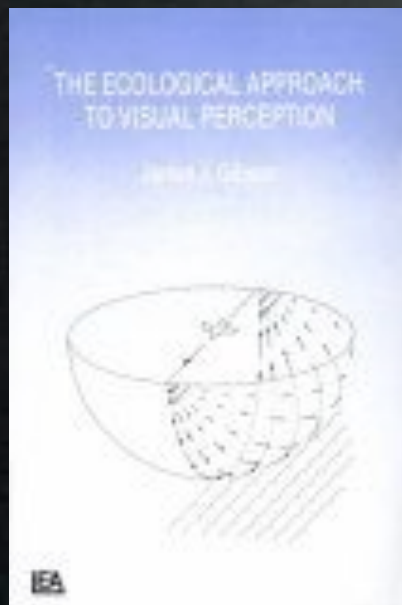


# Persepsjon relatert til økologi



James J. Gibson (1904-1979)

\* Perseptuell læring





Sandor 7 mnd. + Stevie Wonder: "Superstition"



# Lydproducerende bevegelser

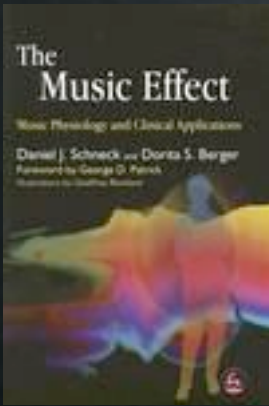


# Imitasjon



# Entrainment -> bevegelser?

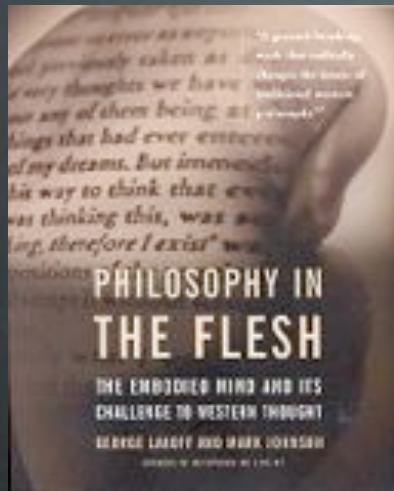
Bevegelse skjer ved at nervesignaler gir beskjed til muskelen om å trekke seg sammen.



“Rhythmic pulsation embodies a consistent symmetrical balance of energy output, of fall and rebound . . . of tension and relaxation. Rhythmic vibration in music involves the same steady stream of force-rest-force-rest, of systematic strong and weak impulses, of alternating flexion (contraction), release (relaxation), and extension as in the case for paired and coupled muscular behavior.”

Daniel J. Schneck & Dorita S. Berger. 2006, *The Music Effect: Music Psychology and Clinical Application*. Jessica Kingsley Publisher. S. 139.

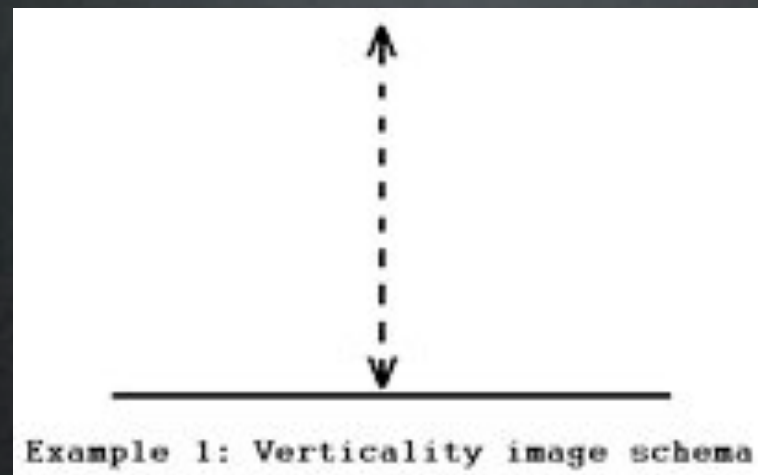
# Vertikalitet



George Lakoff



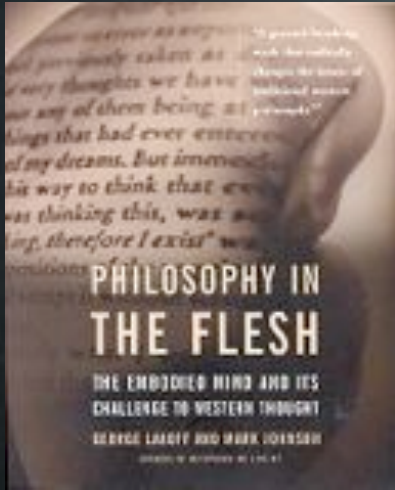
Mark Johnson



Verticality is not inherent in music (let alone in its notational representation); it is not *there* to be observed (heard) in the music, but it is instead a product of logical, metaphoric conceptualization.

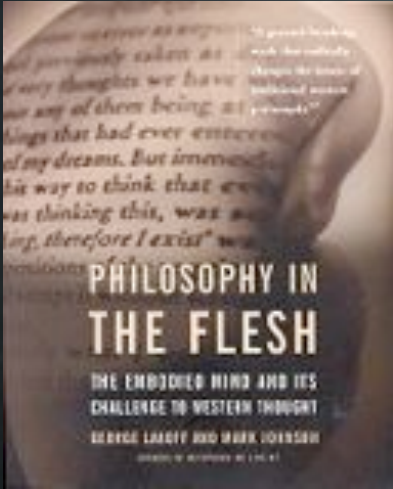
Cox, Arnie, 1999 *The metaphoric logic of musical motion and space*. p. 50





We do not have a choice as to whether to acquire and use primary metaphor. Just by functioning normally in the world, we automatically and unconsciously acquire and use a vast number of such metaphors. Those metaphors are realized in our brains *physically* and are mostly beyond our control. They are a consequence of the nature of our brains, our bodies, and the world we inhabit.

George Lakoff & Mark Johnson, 1999, *Philosophy in the Flesh. The Embodied Mind and its Challenge to Western Thought*. P. 55.



For young children, subjective (nonsensorimotor) experiences and judgments, on the one hand, and sensorimotor experiences, on the other, are so regularly conflated – undifferentiated in experience – that for a time children do not distinguish between the two when they occur together.

George Lakoff & Mark Johnson, 1999, *Philosophy in the Flesh. The Embodied Mind and its Challenge to Western Thought*. P. 55.



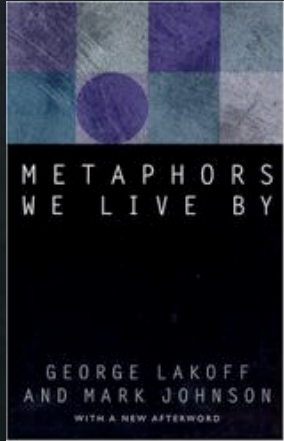
Kilde:

Nær/varm = en opplevelse av nærhet og kroppstemperatur.

Mål: Omsorg/hengivenhet

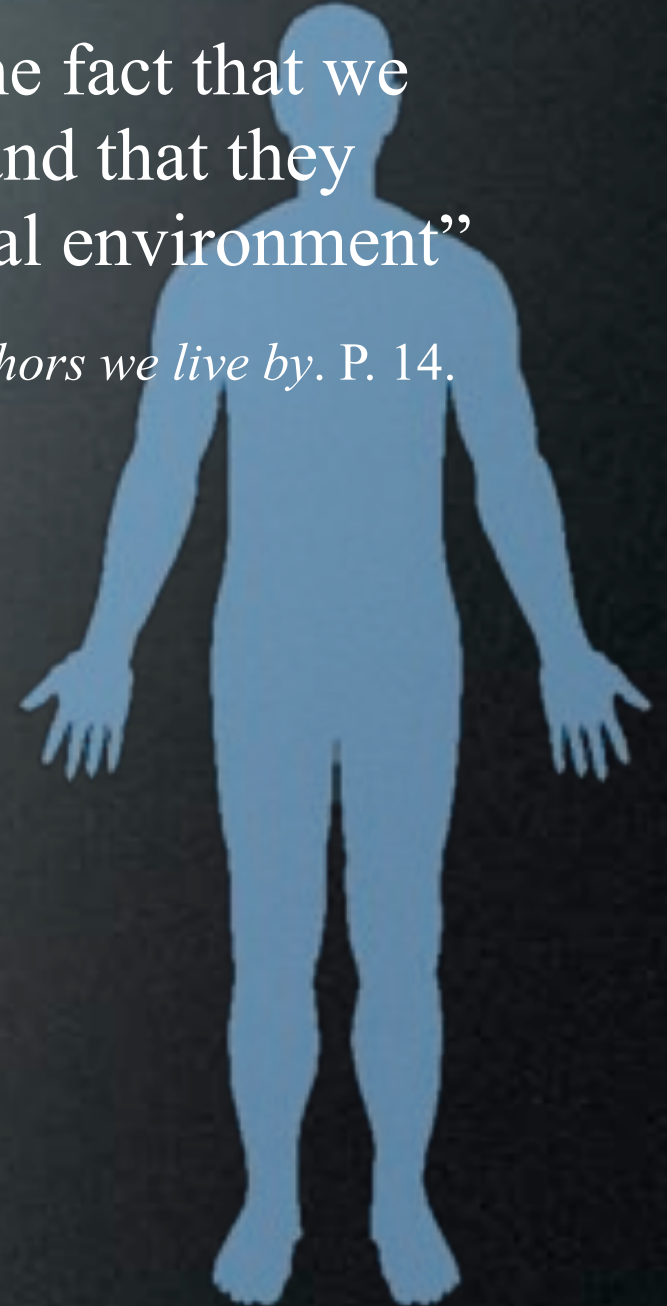
“Han er en nær person”

“Han er en varm person”

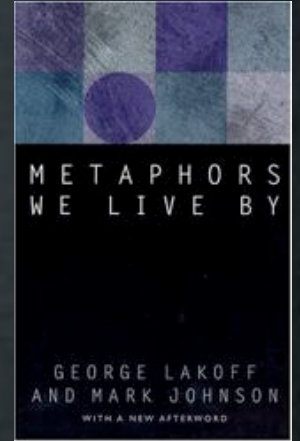


“spatial orientations arise from the fact that we have bodies of the sort we have and that they function as they do in our physical environment”

George Lakoff & Mark Johnson, 1980, *Metaphors we live by*. P. 14.



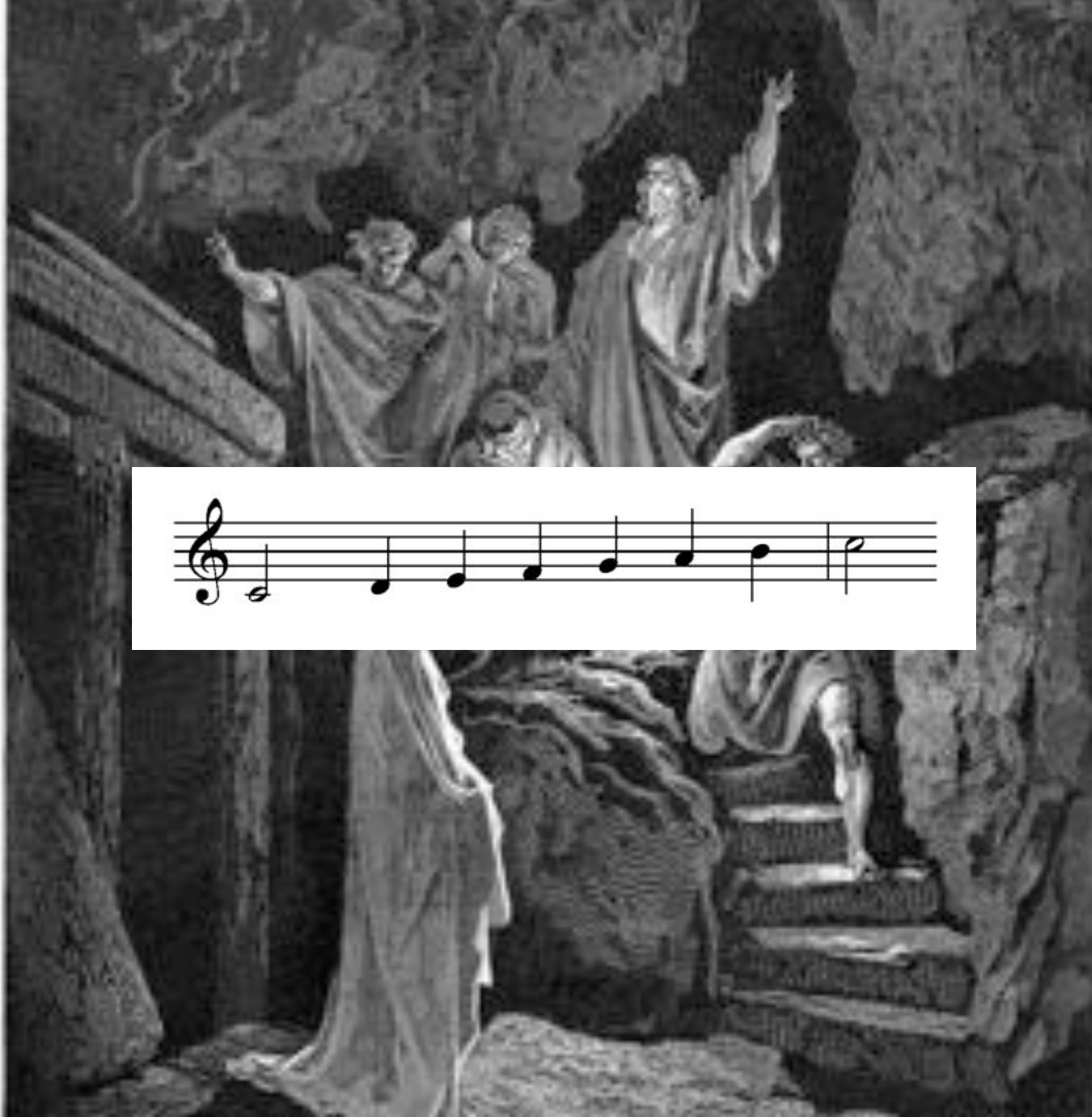
UP



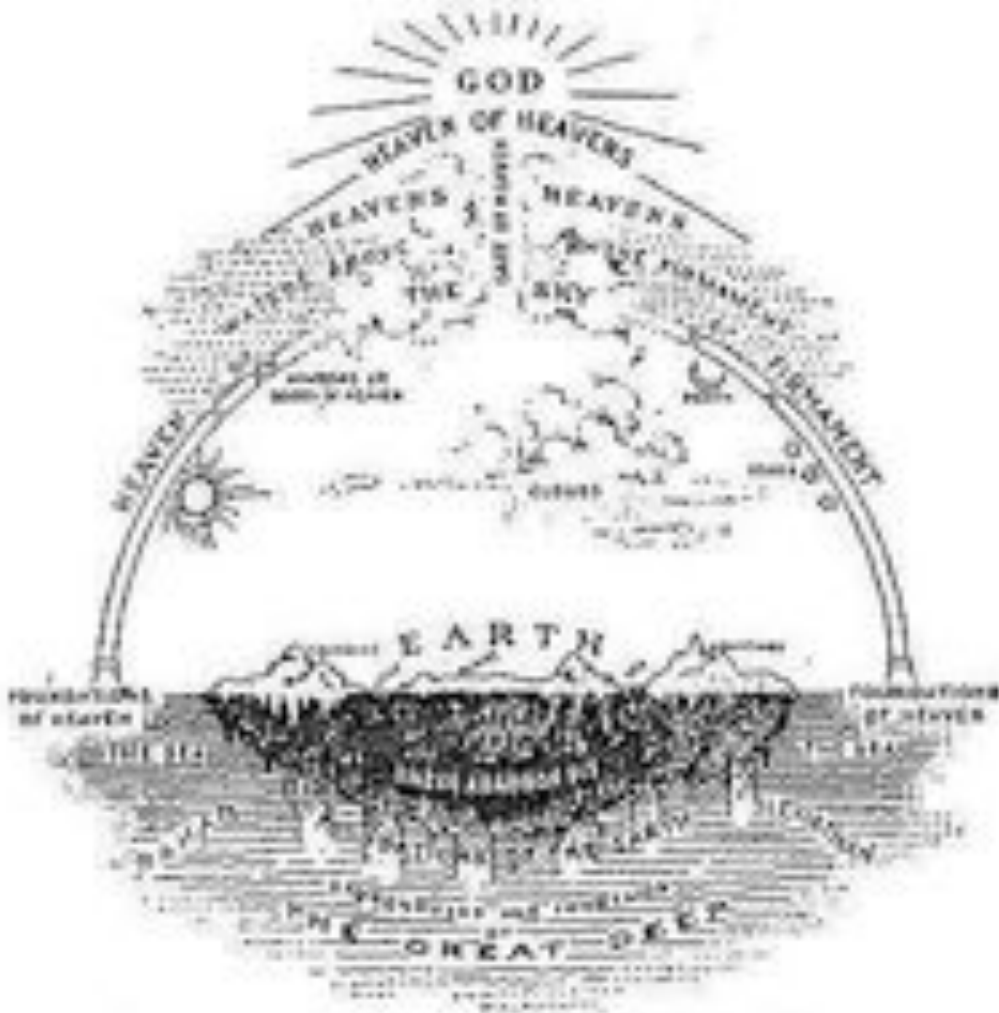
*“The ‘strong and weak’ metaphor of the leader”*

*“The ‘high and low’ metaphor of social hierarchy”*

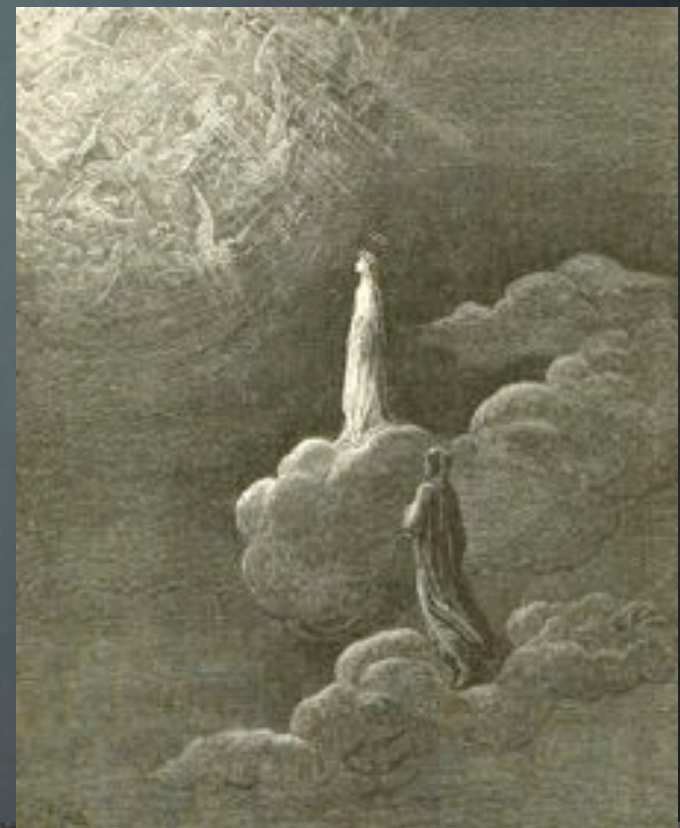
DOWN





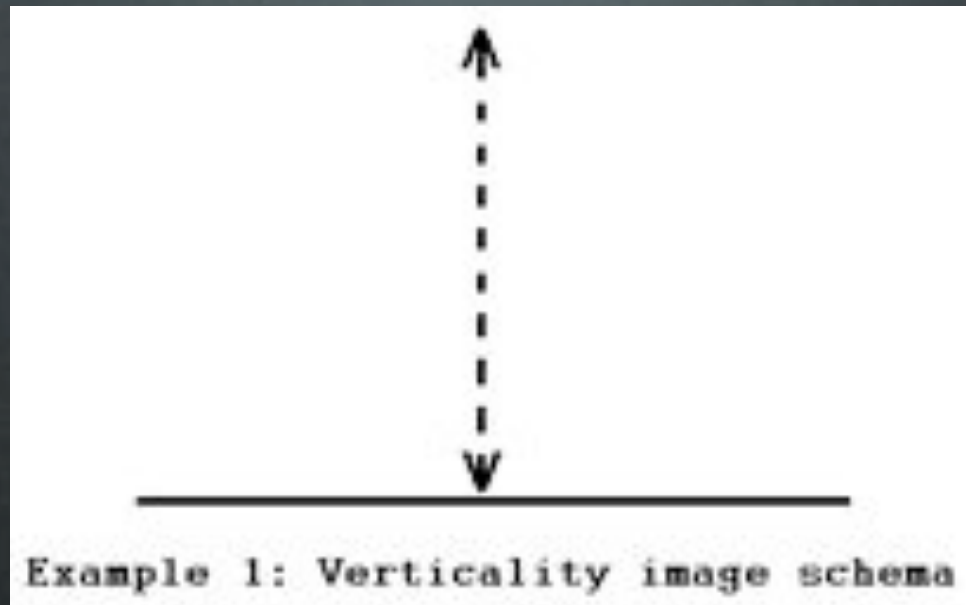


THE ANCIENT HEBREW CONCEPTION OF THE UNIVERSE





# PITCH RELATIONSHIPS ARE RELATIONSHIPS IN VERTICAL SPACE



Zbikowski, L. M. (1998) *Metaphor and music theory: reflections from cognitive science*. In *Music Theory Online* Volume 4.1

♩ = 60

Port.  
Guit.

The image displays four staves of musical notation for a piece titled "Port. Guit." in a minor key, 6/8 time, with a tempo of 60 bpm. The notation is written in treble clef and includes various rhythmic patterns such as eighth and sixteenth notes, rests, and slurs. The first staff begins with a treble clef, a key signature of two flats (B-flat and E-flat), and a common time signature. The tempo marking "♩ = 60" is positioned above the first staff. The second staff continues the melodic line with a variety of note values and rests. The third staff shows a continuation of the piece with similar rhythmic structures. The fourth staff concludes the piece with a final melodic phrase and a double bar line.

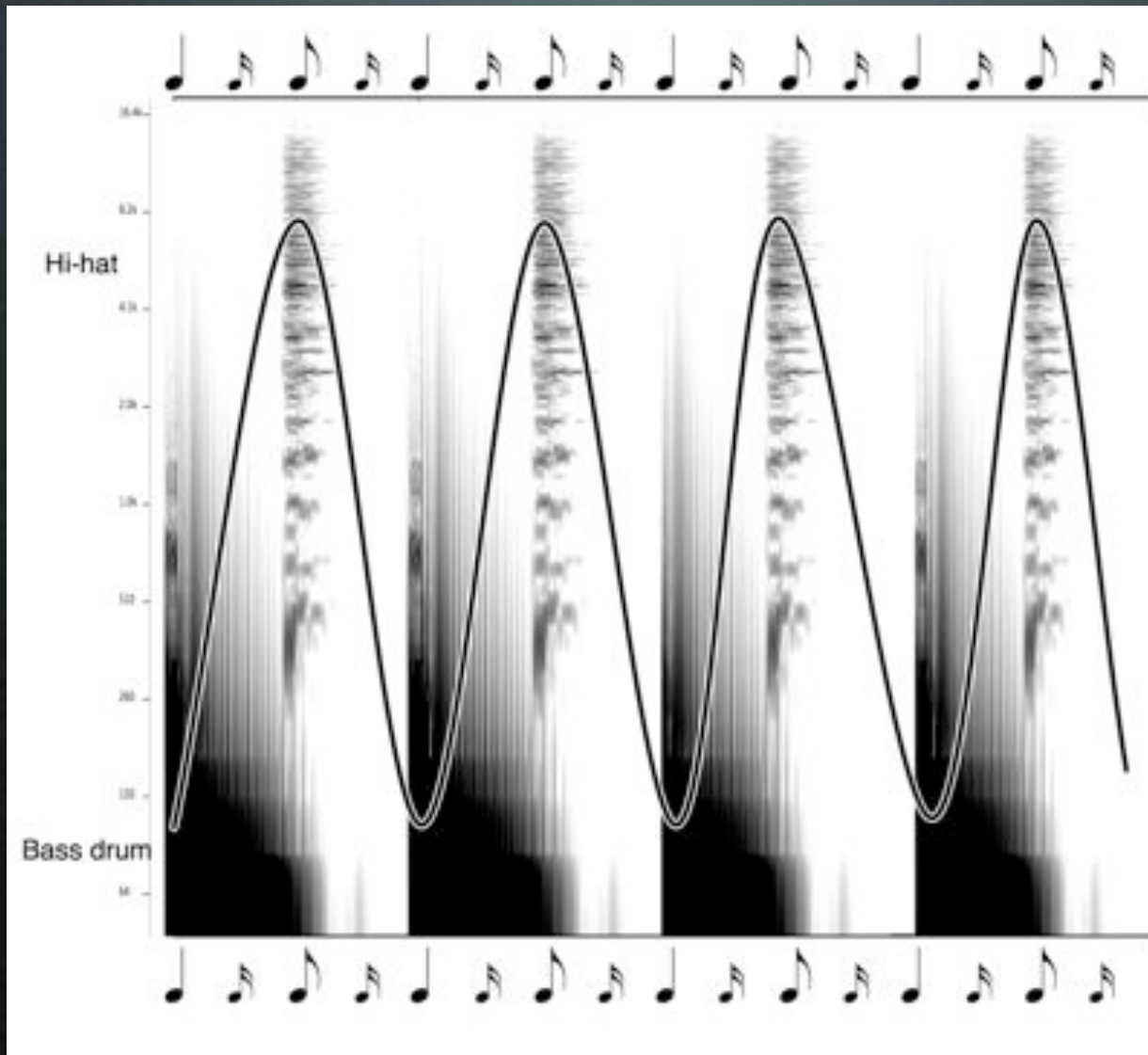
Analyse av musikk basert på  
teorier om musikk og bevegelse.

Kap. 6: Rytme

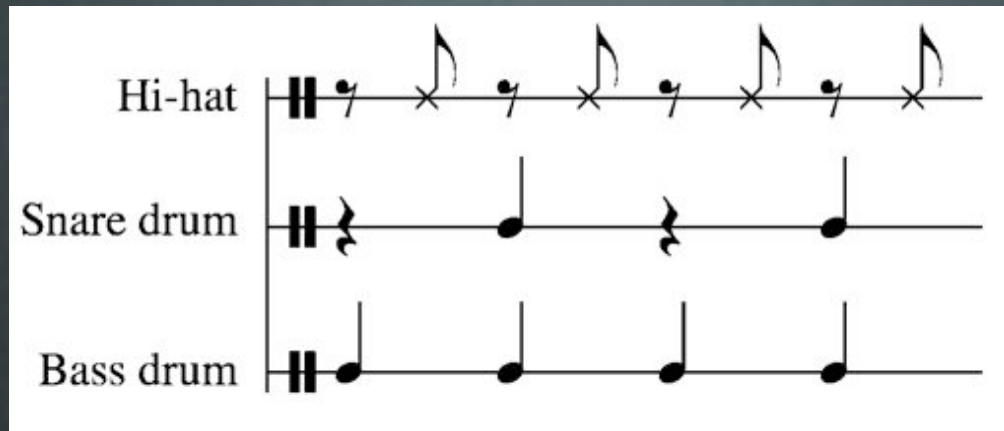
Kap. 8: Sound/lyd

Entrainment - Vertikalitet

# Oppmerksomhetspunkter:



# Variasjon

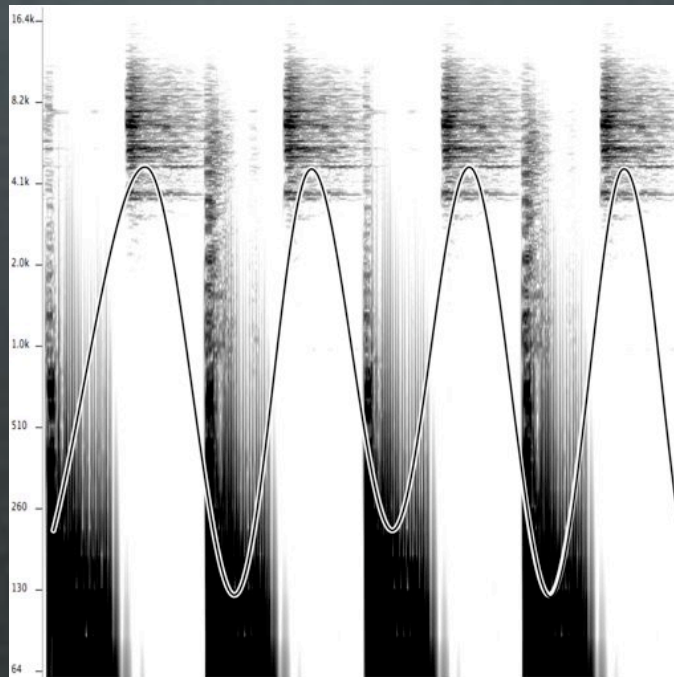


Hi-hat

Snare drum

Bass drum

The image shows three staves of musical notation. The top staff is labeled 'Hi-hat' and contains a series of eighth notes with 'x' marks above them, indicating a hi-hat pattern. The middle staff is labeled 'Snare drum' and contains a series of quarter notes with a 'z' mark above them, indicating a snare drum pattern. The bottom staff is labeled 'Bass drum' and contains a series of quarter notes, indicating a bass drum pattern.



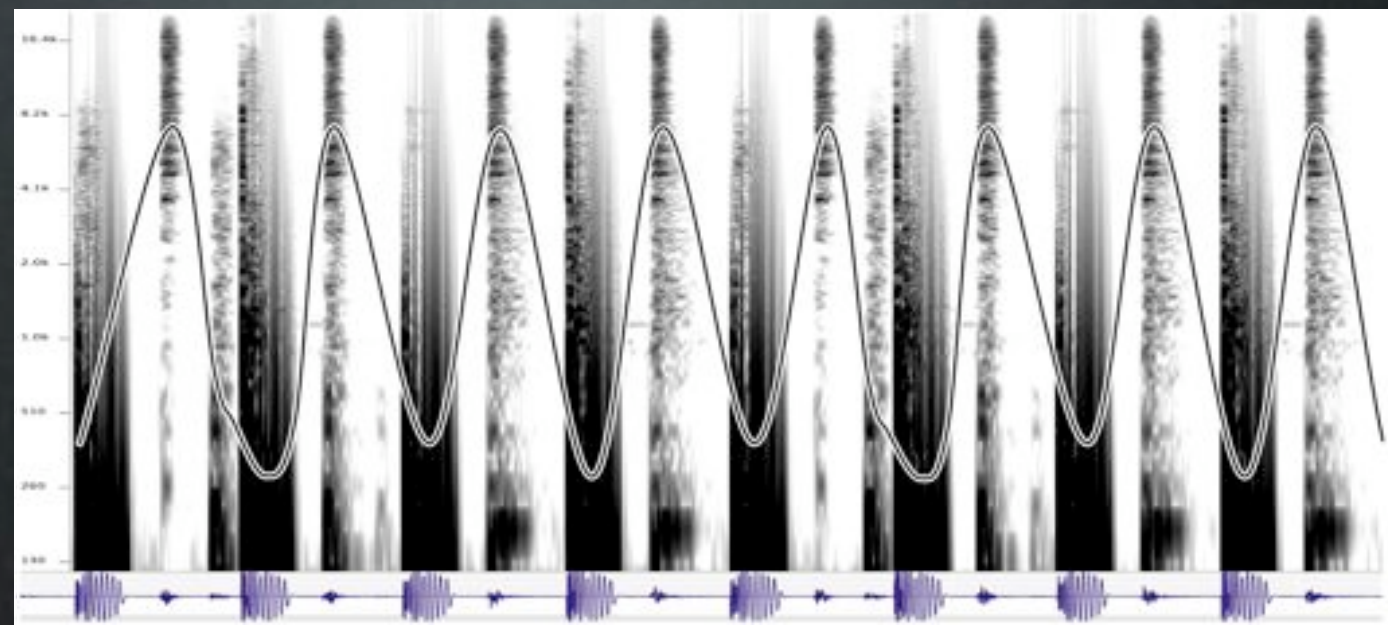
Deep Dish feat. Everything but the Girl: “The Future of the Future (Stay Gold)” (1998)

Hi-hat

Snare drum

Bass drum

The image shows a musical score for three drum parts: Hi-hat, Snare drum, and Bass drum. The Hi-hat part consists of a steady eighth-note pattern with 'x' marks above the notes. The Snare drum part features a pattern of eighth notes, with two specific notes circled and marked with a '3' and a bracket, indicating a triplet. The Bass drum part consists of a steady eighth-note pattern.



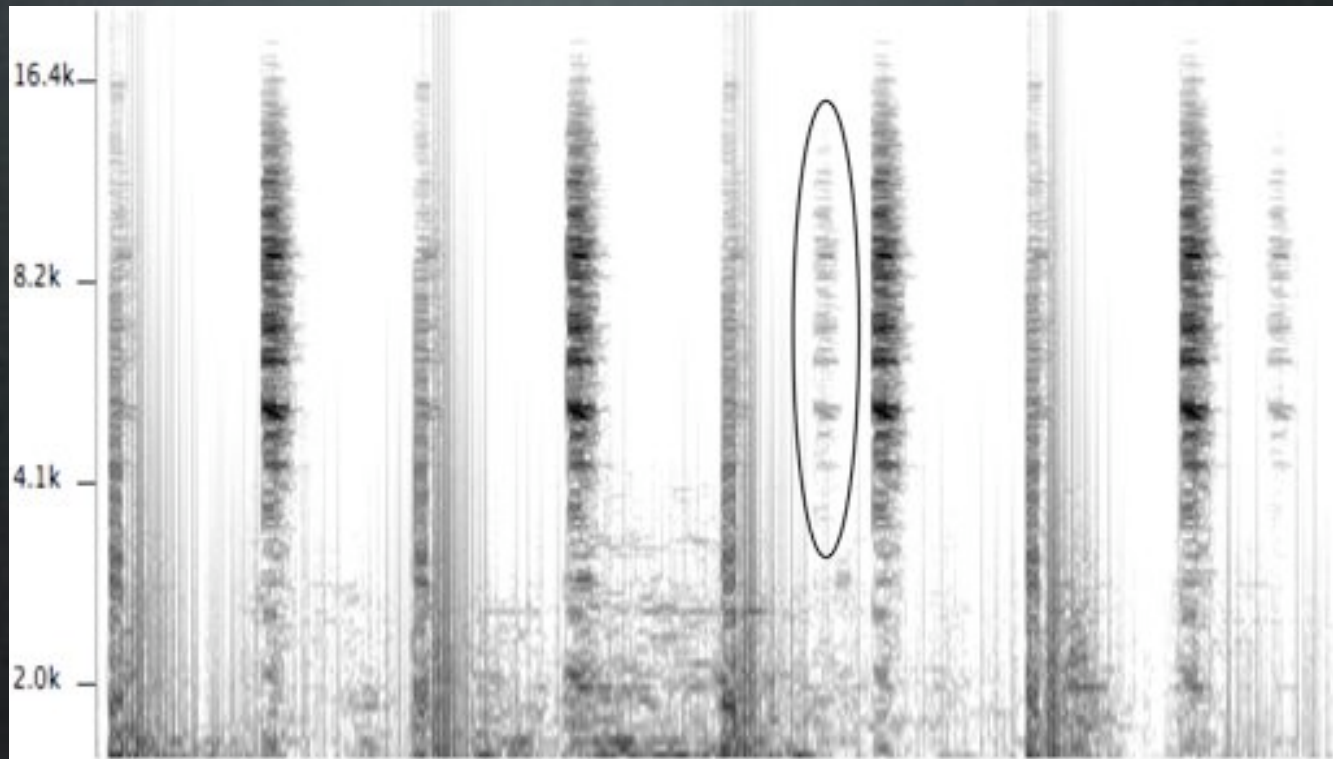
Shazz: "Fallin' In Love" (PT. G Remix) (2001)

Bpm: 127

Hi-hat

Bass drum

The image shows two staves of musical notation. The top staff is labeled 'Hi-hat' and the bottom staff is labeled 'Bass drum'. Both staves begin with a double bar line. The Hi-hat staff contains a sequence of notes: a quarter note, a quarter note with an accent (>), a quarter note, a quarter note with an accent (>), a quarter note circled in black, a quarter note with an accent (>), a quarter note, and a quarter note with an accent (>). The Bass drum staff contains a sequence of quarter notes: a quarter note, a quarter note, a quarter note, and a quarter note.



Boogie Drama: "Hypnofunk" (2002)

Bpm: 125

# Utfyllende temaer / Spenningspunkter:

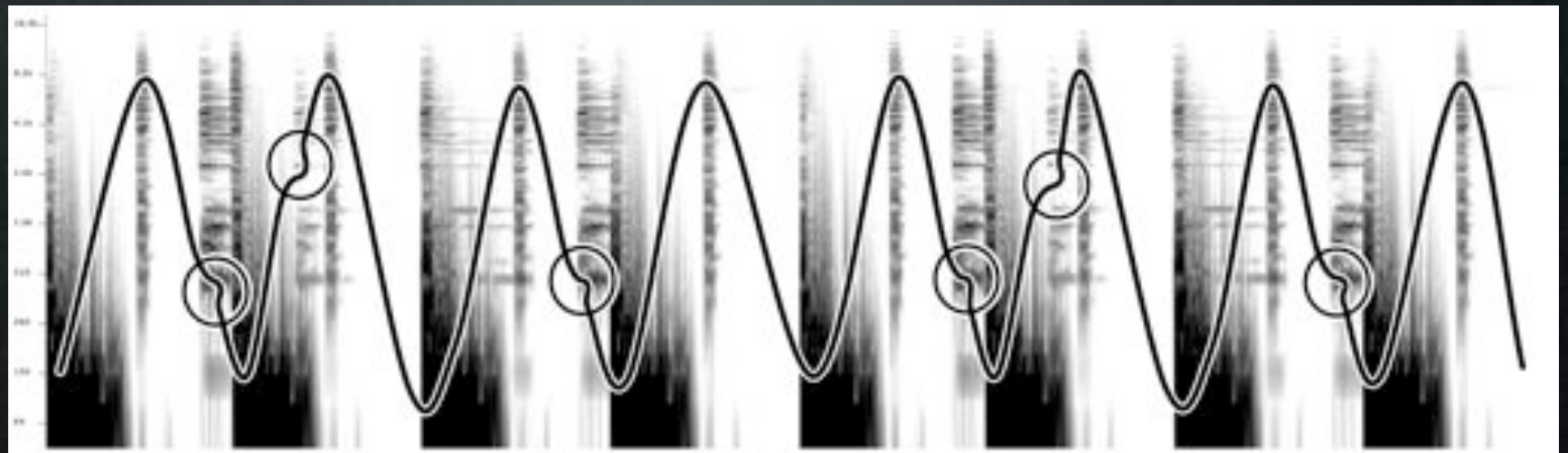
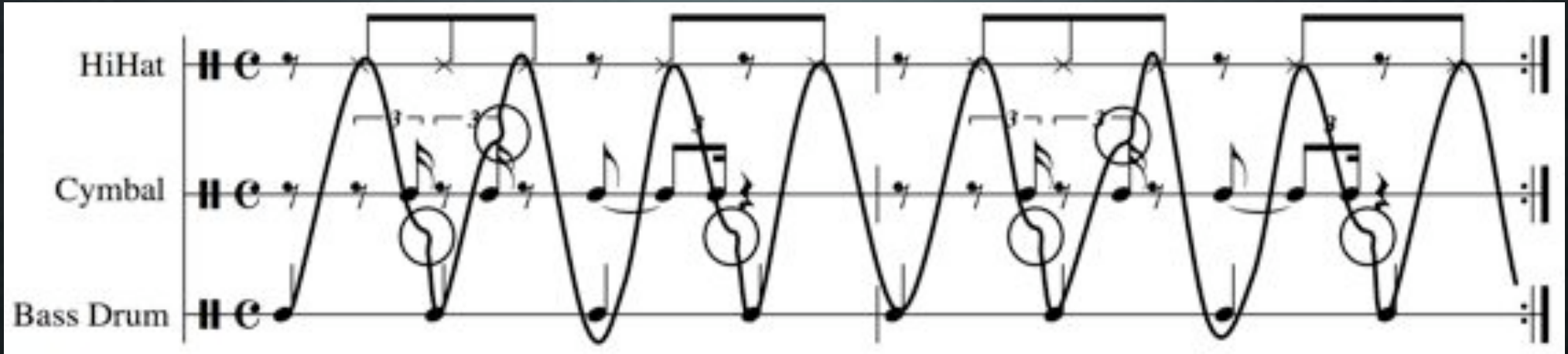
Basement Jaxx: "Jump'N'Shout", 1999

Takt 1-4:

The image shows two staves of musical notation for the first four measures of a piece. The top staff is labeled 'HH' (Hi-Hat) and the bottom staff is labeled 'BD' (Bass Drum). Both staves are in 7/8 time, indicated by the '7' over the '8' in the time signature. The Hi-Hat staff contains a sequence of eighth notes with 'x' marks above them, grouped into four pairs by brackets. The Bass Drum staff contains a sequence of eighth notes, also grouped into four pairs by brackets. A large, hand-drawn oval encircles the notes in both staves, with lines connecting the notes in each pair between the two staves, illustrating the relationship between the Hi-Hat and Bass Drum patterns.

1. Original
2. Cymbal fjernet
3. HiHat fjernet





This image shows a musical score for four drum parts: HiHat, Snare Drum, Cymbal, and Bass Drum. The score is divided into six measures, each with a specific annotation below it: Tension, Extra emphasis, Expectation, Tension, Extra emphasis, and Expectation. The HiHat part features a consistent rhythmic pattern of eighth notes with accents. The Snare Drum part has a similar pattern, with some notes circled. The Cymbal part includes triplet markings and notes that are circled and connected to the Snare Drum notes by lines. The Bass Drum part has a simple pattern of quarter notes. The annotations are placed below the measures, with lines connecting them to specific notes in the Snare Drum and Cymbal parts.

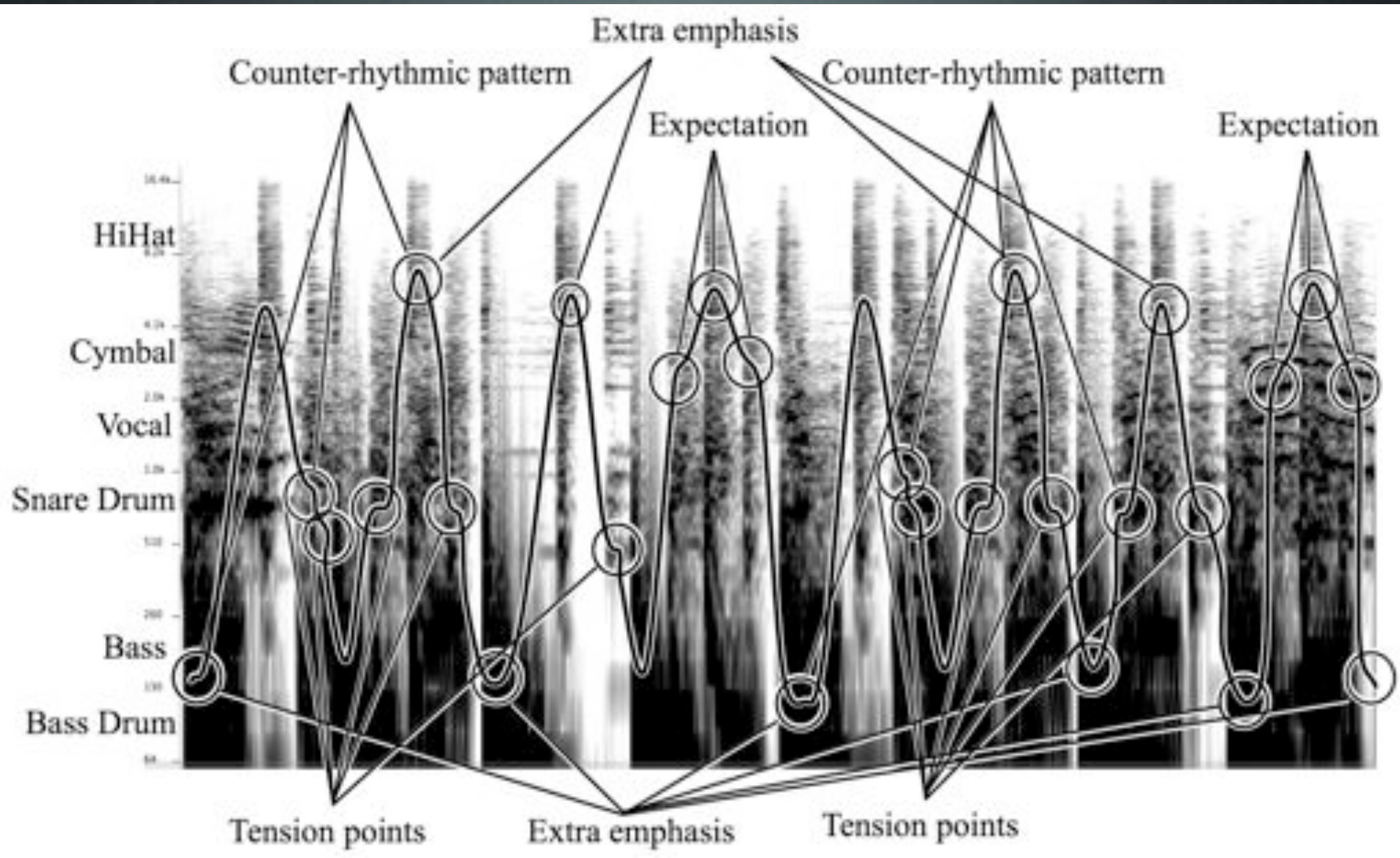
HiHat

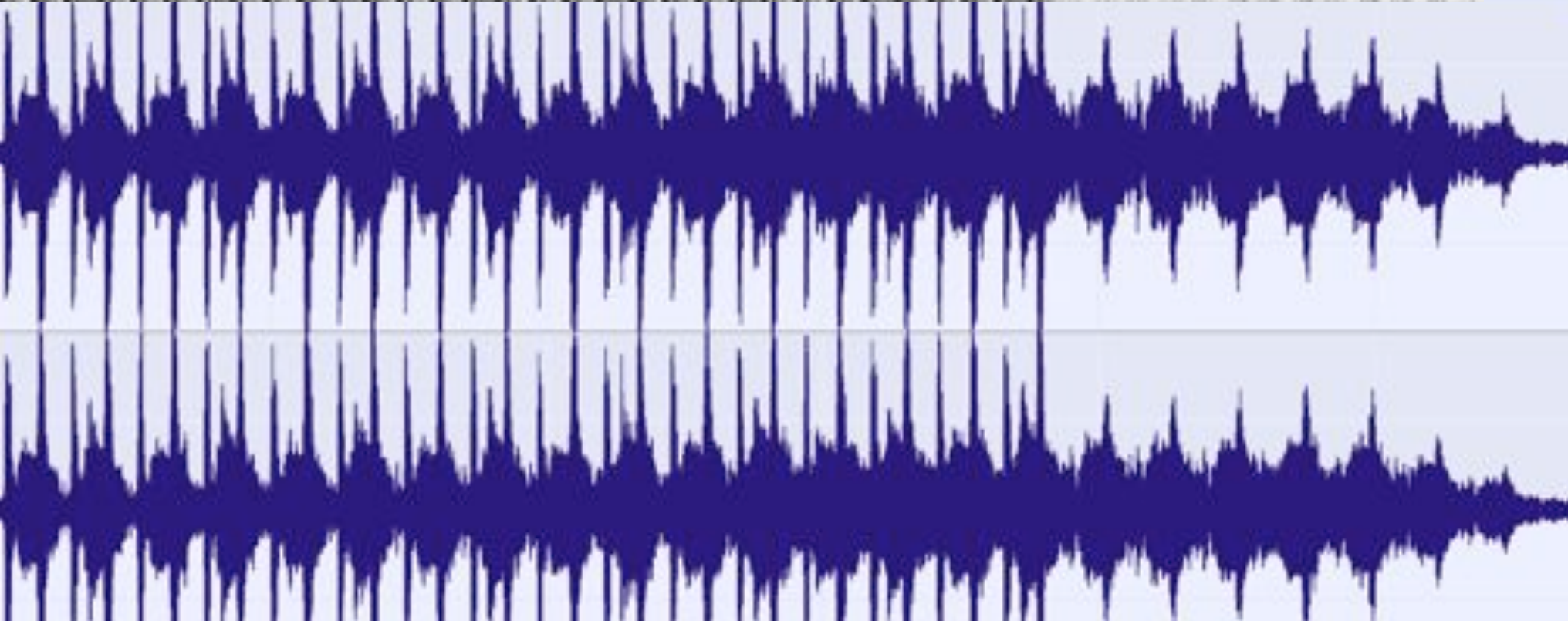
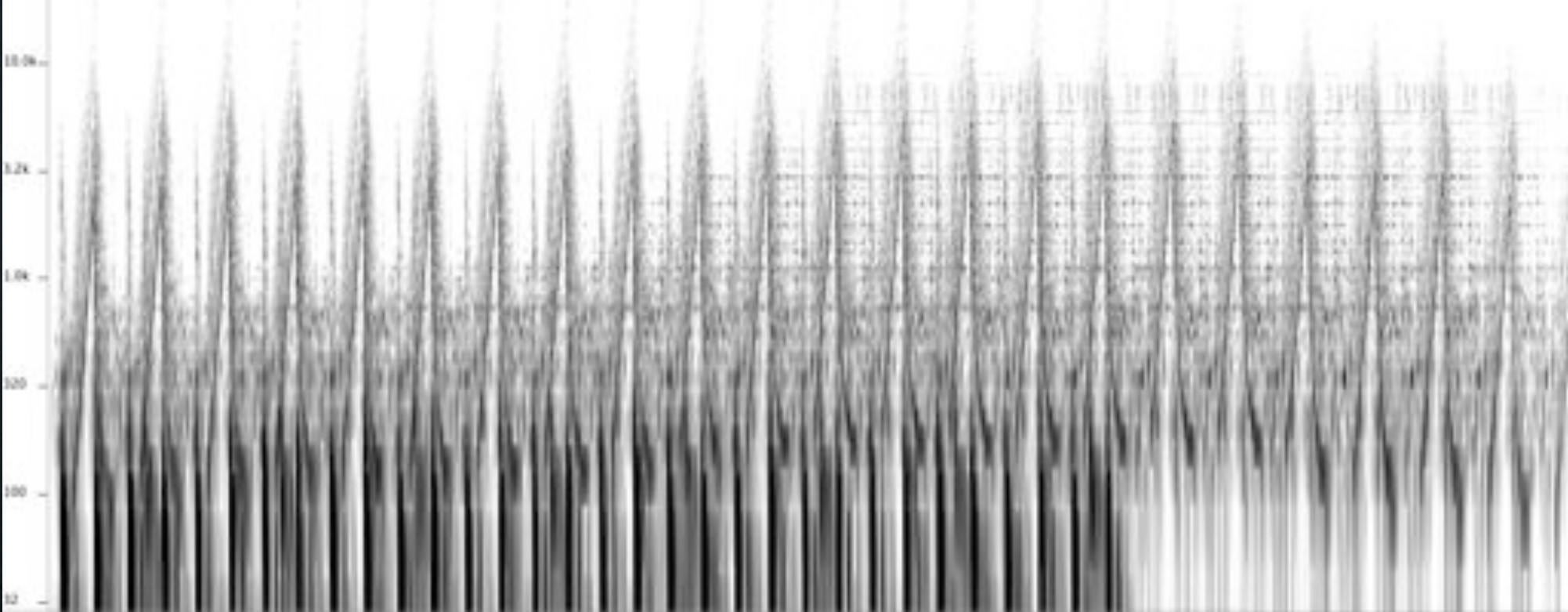
Snare Drum

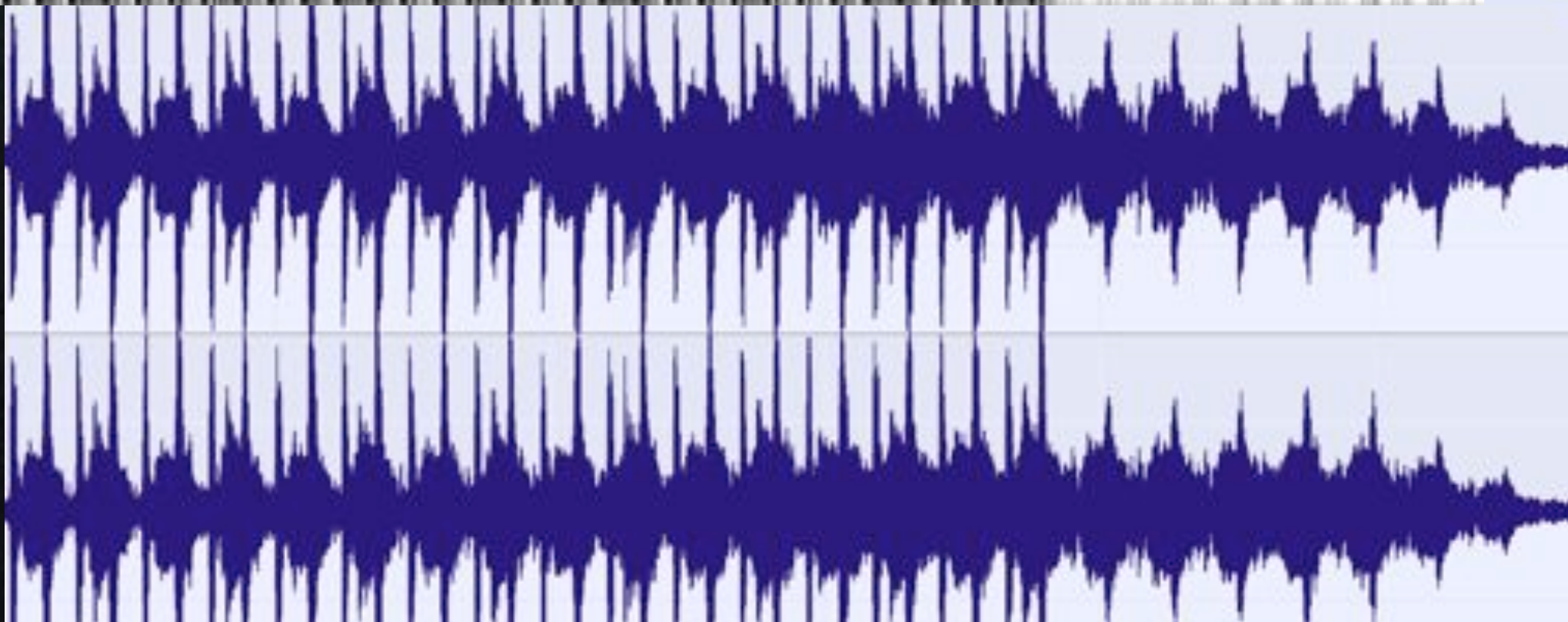
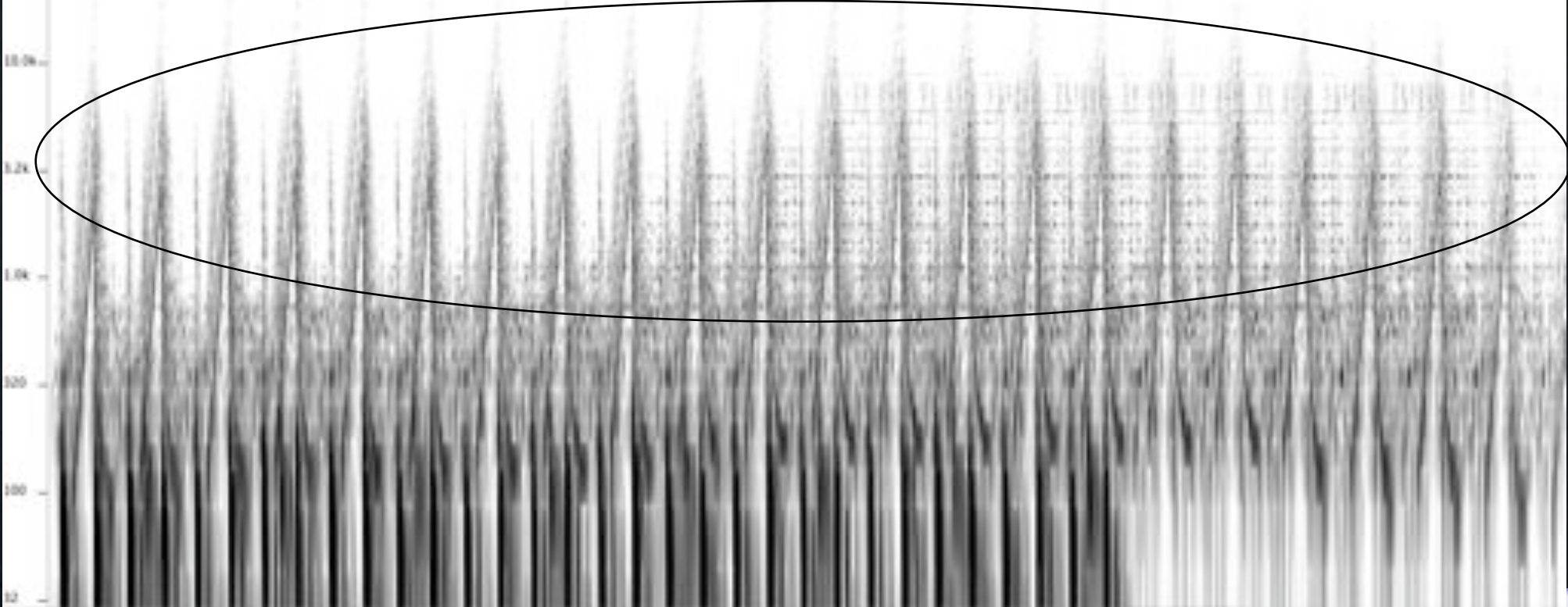
Cymbal

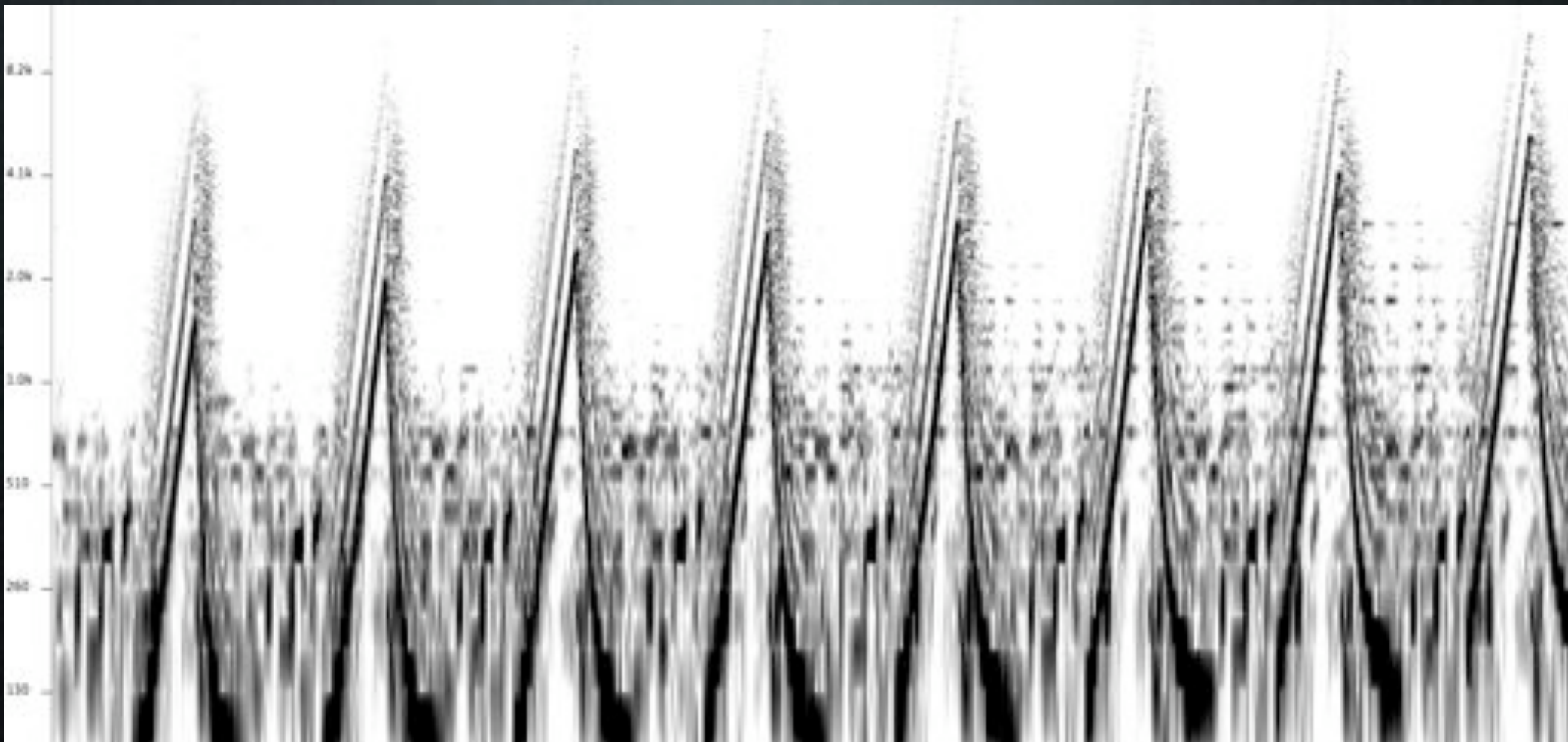
Bass Drum

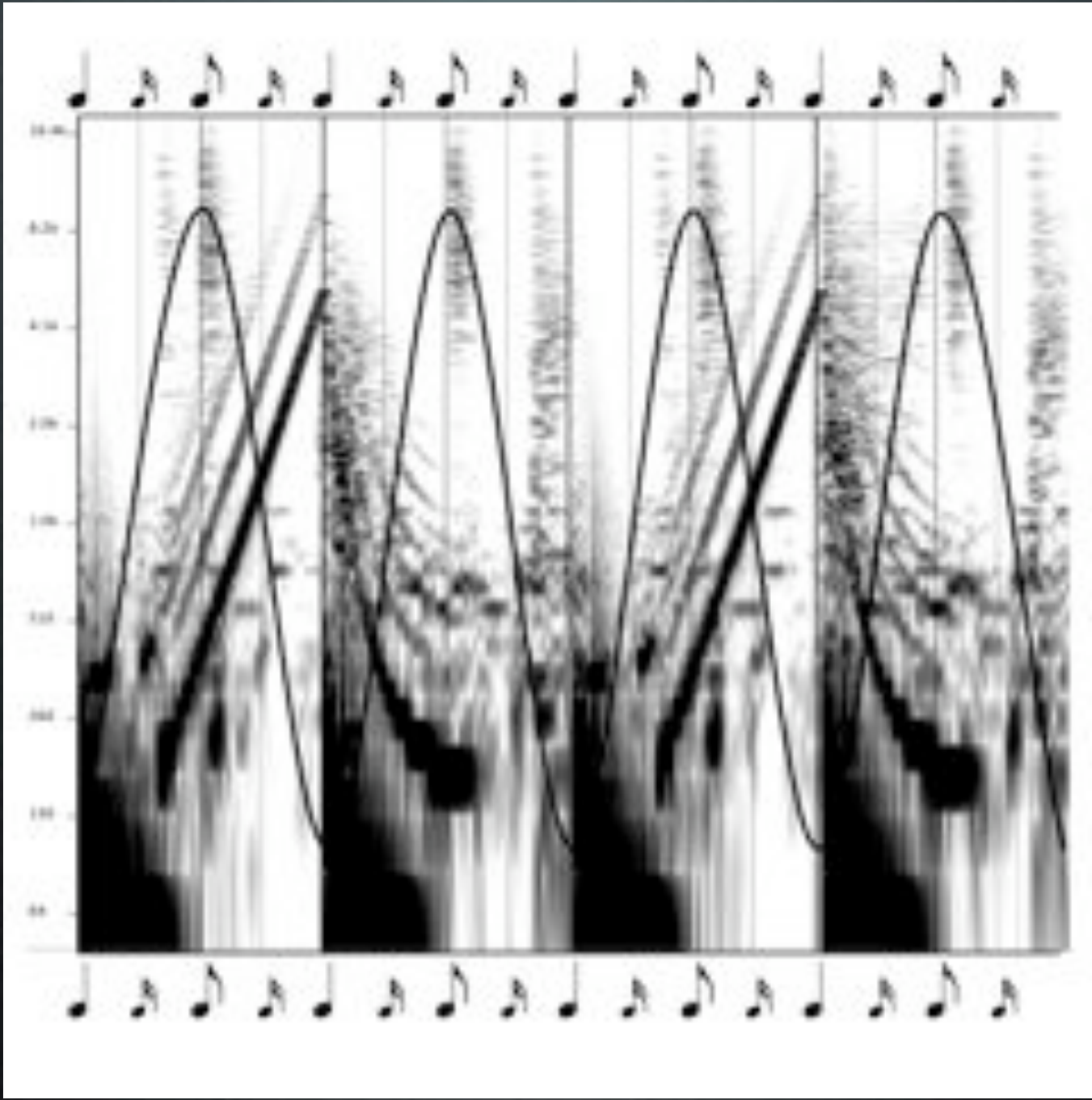
Tension Extra emphasis Expectation Tension Extra emphasis Expectation

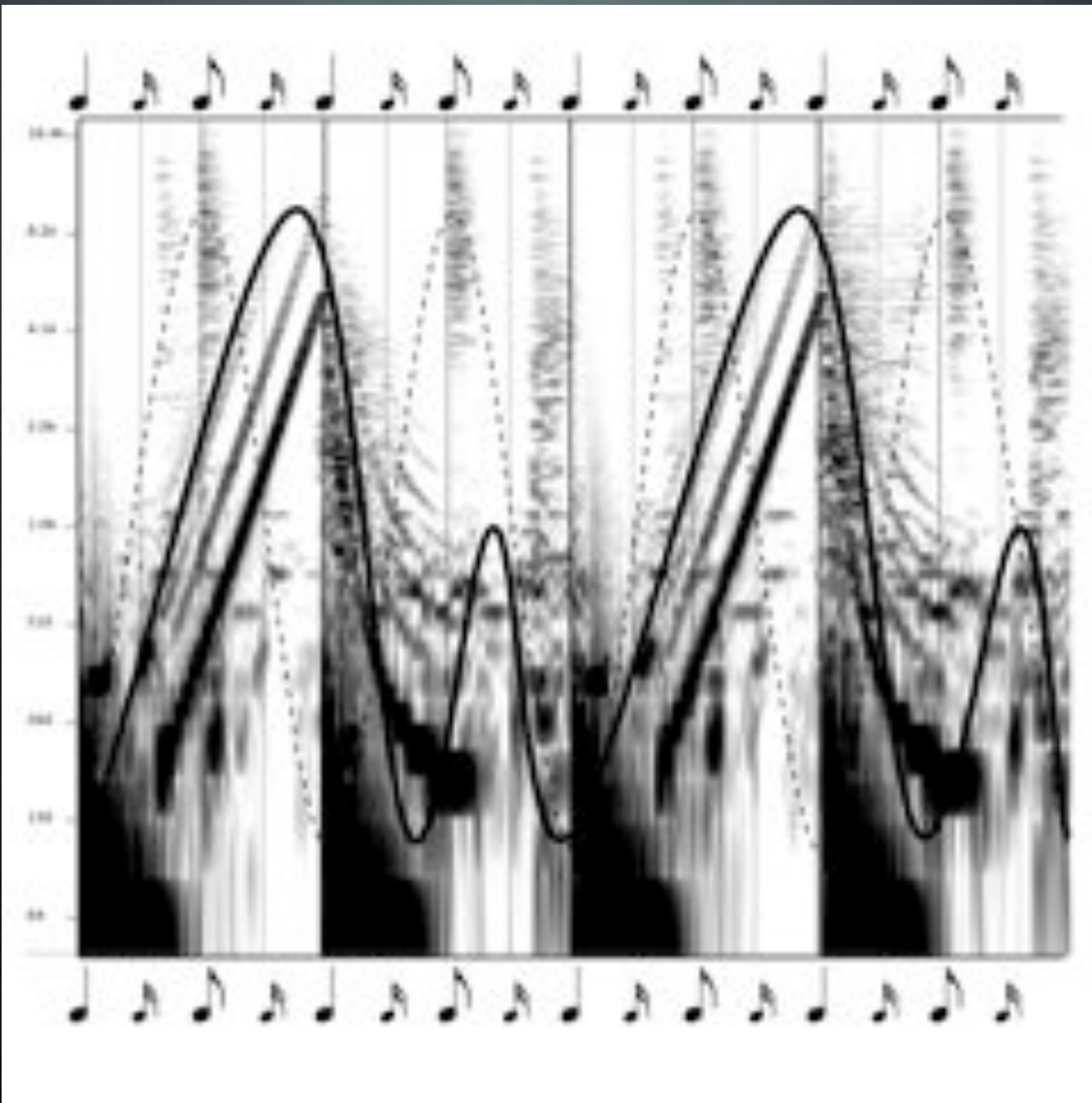




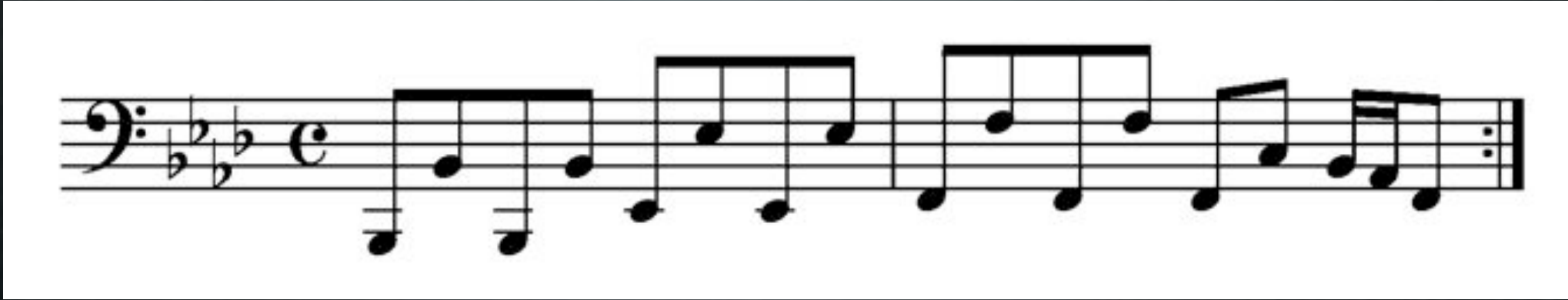












Sylvester: "You Make Me Feel (Mighty Real)" (1978)

Bpm: 131





Madonna: "Give It 2 Me" (2008)

Bpm: 127





Svein Berge og Torbjørn Brundtland



Röyksopp: "Remind Me" (Someone Else's Radio Remix) (2002)

Hi-hat

Bass-line

Bass Drum

The image shows a musical score for three parts: Hi-hat, Bass-line, and Bass Drum. The Hi-hat part is on a single staff with a treble clef and a key signature of one sharp (F#). It features a repeating rhythmic pattern of eighth notes, with some notes circled. The Bass-line part is on a single staff with a bass clef and a key signature of one sharp (F#). It features a repeating rhythmic pattern of eighth notes, with some notes circled. The Bass Drum part is on a single staff with a treble clef and a key signature of one sharp (F#). It features a repeating rhythmic pattern of eighth notes, with some notes circled. The score is written in a simple, clean style with a white background and black notation.

Fritz Valley Project: "Blindness (Harmonic Excursion)" (1998)

Bpm: 127

This image shows a musical score for four instruments: Guit., Tamb., Surdo seg., and Surdo prim. The score is written in bass clef with a key signature of three sharps (F#, C#, G#) and a common time signature (C). The Guit. part features a melodic line with eighth notes and quarter notes, with two groups of notes circled and arrows pointing to the right. The Tamb. part consists of a rhythmic pattern of eighth notes with accents (>). The Surdo seg. part features a rhythmic pattern of quarter notes with accents (>) and rests. The Surdo prim. part features a rhythmic pattern of quarter notes with accents (>) and rests, with the numbers 3, 3, 3, 2, 3, and 2 written below the notes, indicating the number of strokes for each note. The numbers 3 and 2 are circled in the original image.

Guit.

Tamb.

Surdo seg.

Surdo prim.

3 3 3 2 3 2

Hvordan deltar vi i musikklytting?

