

Vnímání komplexních zvukových prostředí

(auditory scene analysis)

PSY212 Psychologie zvuku



Analýza scény jako problém

AI CSAITT STIOTOS

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Analýza scény jako problém

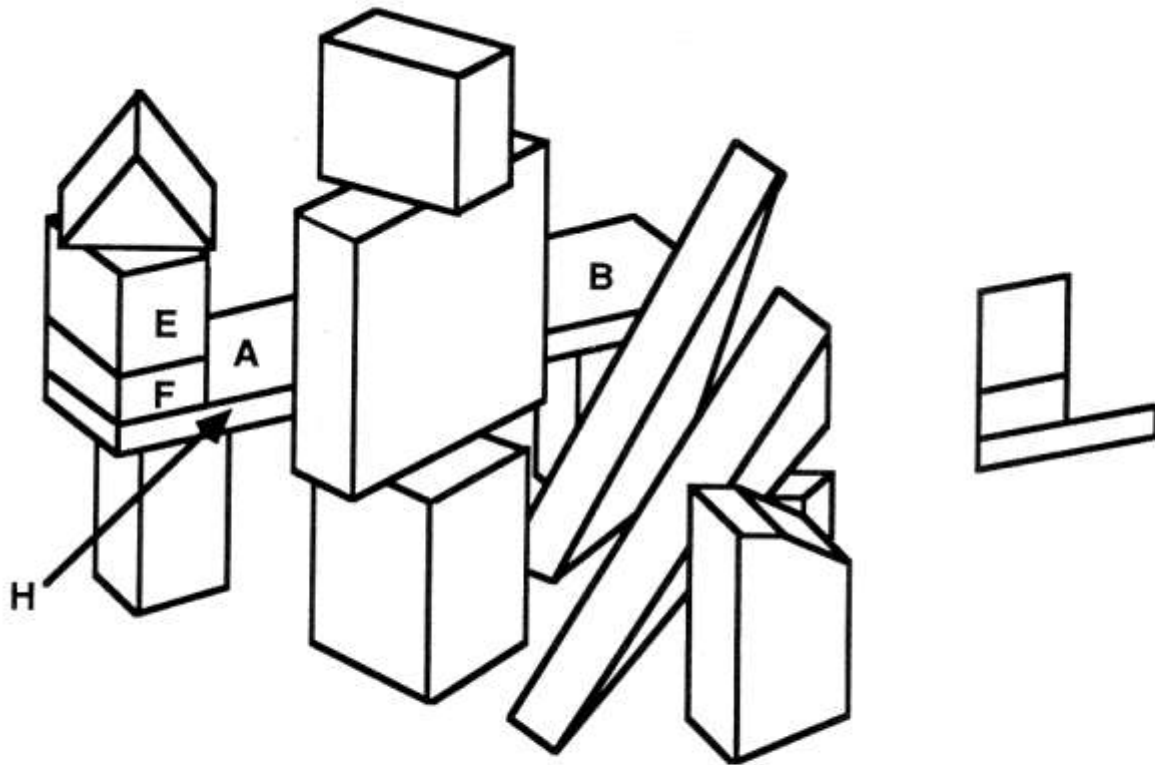
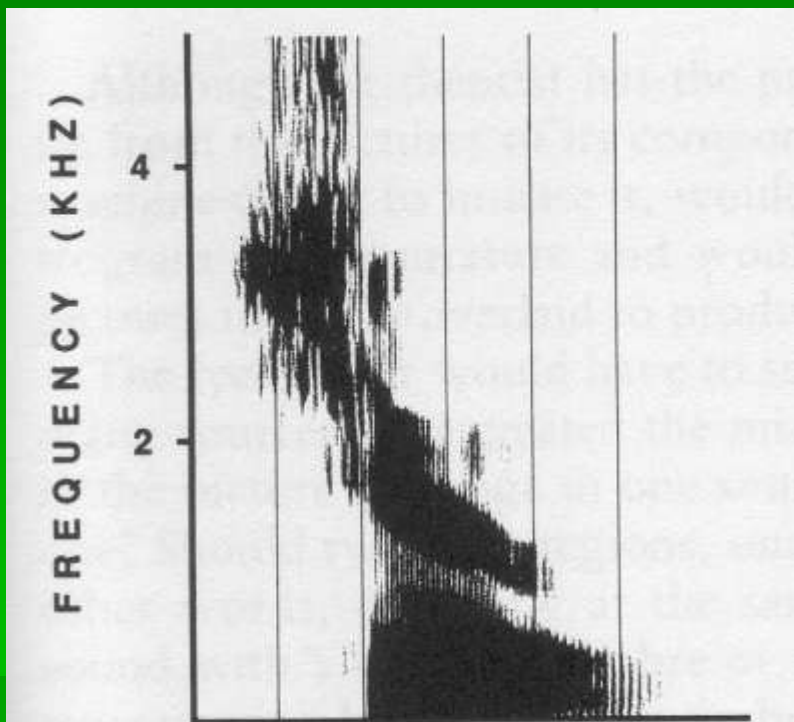


Figure 1.2

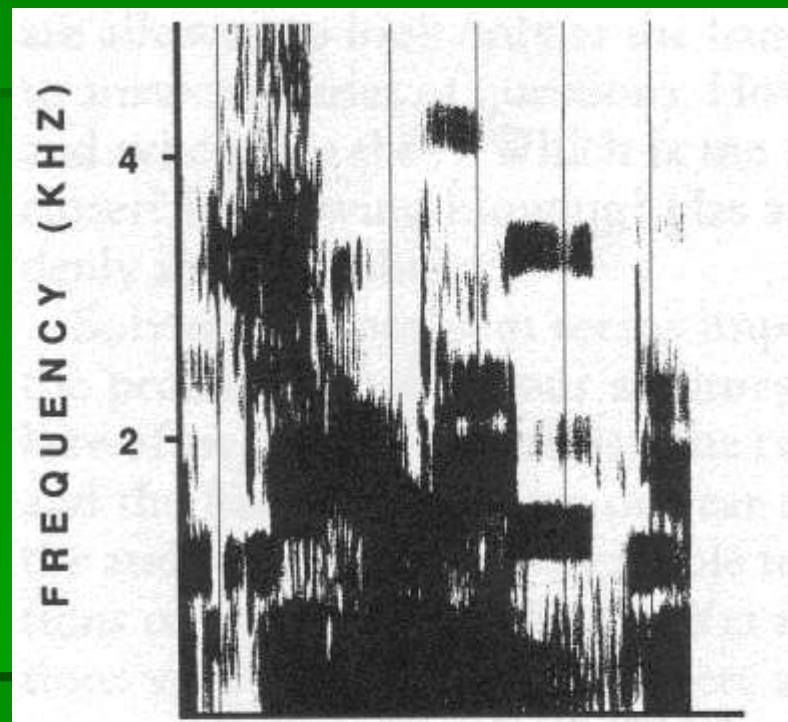
A line drawing of blocks for visual scene analysis. (After Guzman 1969.)

Spektrogram slova „shoe“



TIME
(1 division = 10 msec)

Figure 1.3
Spectrogram of the word "shoe"
spoken in isolation.



TIME
(1 division = 10 msec)

Figure 1.4
A spectrogram of a mixture of sounds
(containing the word "shoe").

Organizace percepčního pole

- zákon pregnantnosti
- zákon proximity (blízkosti)
- zákon kontinuity (dobré křivky)
- zákon podobnosti
- zákon společného osudu
- zákon uzavřenosti

Princip přináležení

(the principle of belongingness)

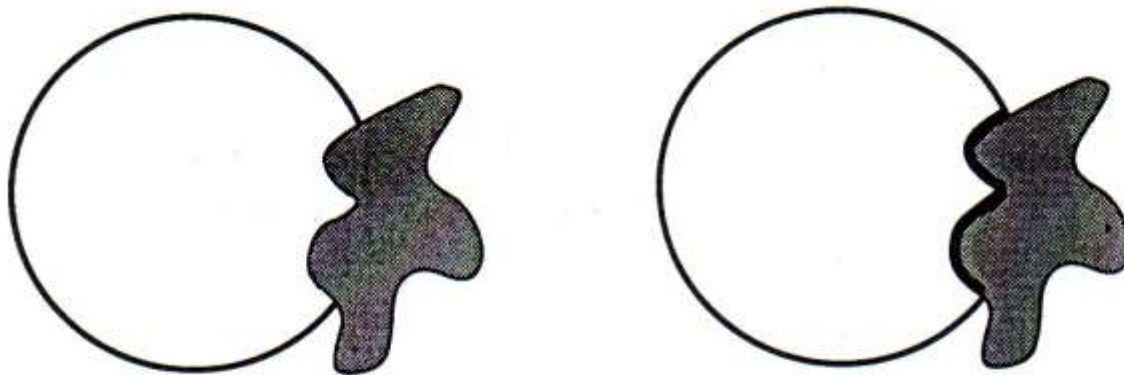


Figure 1.5

An example of “belongingness.” The dark portion of the line seems to belong to the irregular form.

Princip výlučného přidělení *(the principle of exclusive allocation)*

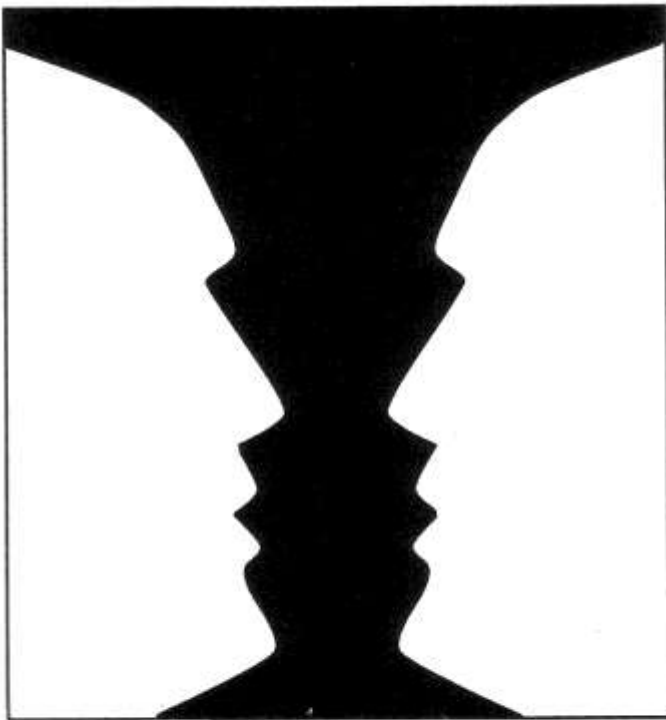


Figure 1.6

An ambiguous drawing in which either a vase at the center or two faces at the sides can be seen.

Vydělení dvou tónů zachycením interferujících tónů (D16)

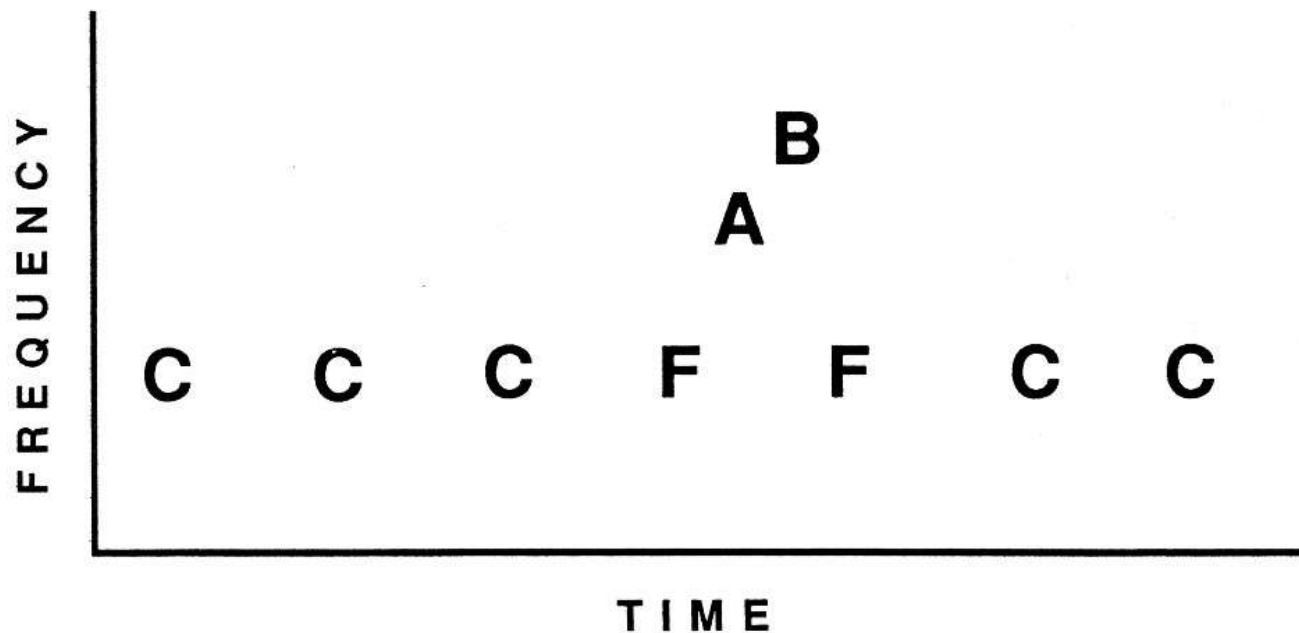
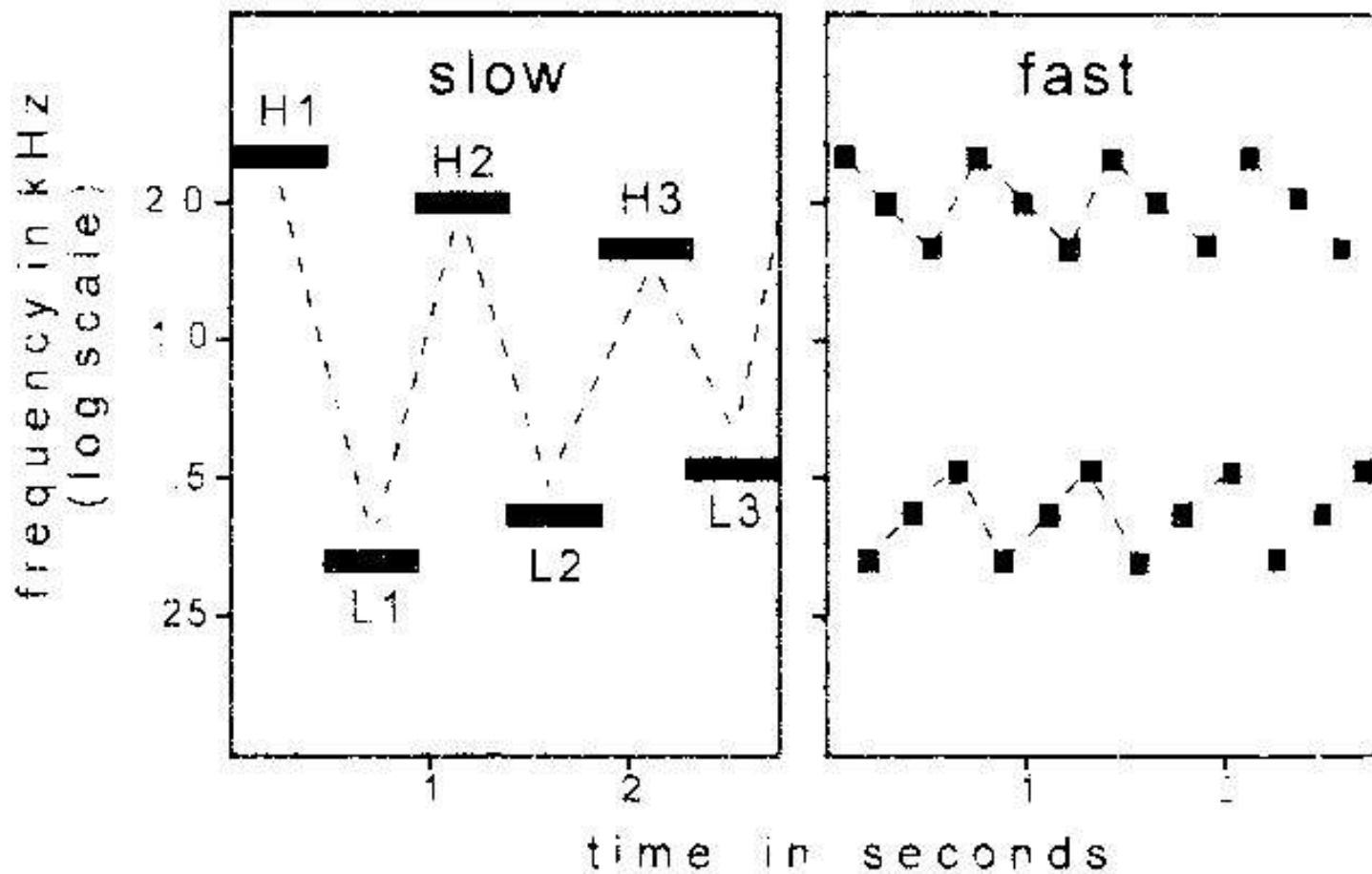


Figure 1.7

A tone sequence of the type used by Bregman and Rudnický (1975).

Segregace dvou proudů v cyklu šesti tónů (D1)



Vliv frekvenčního rozdílu a tempa na segregaci

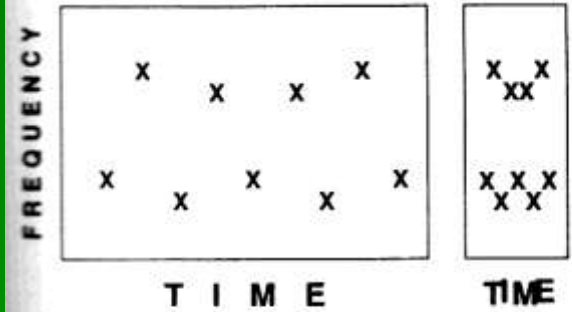


Figure 1.10
Stream segregation is higher at higher speeds, as shown on the right.

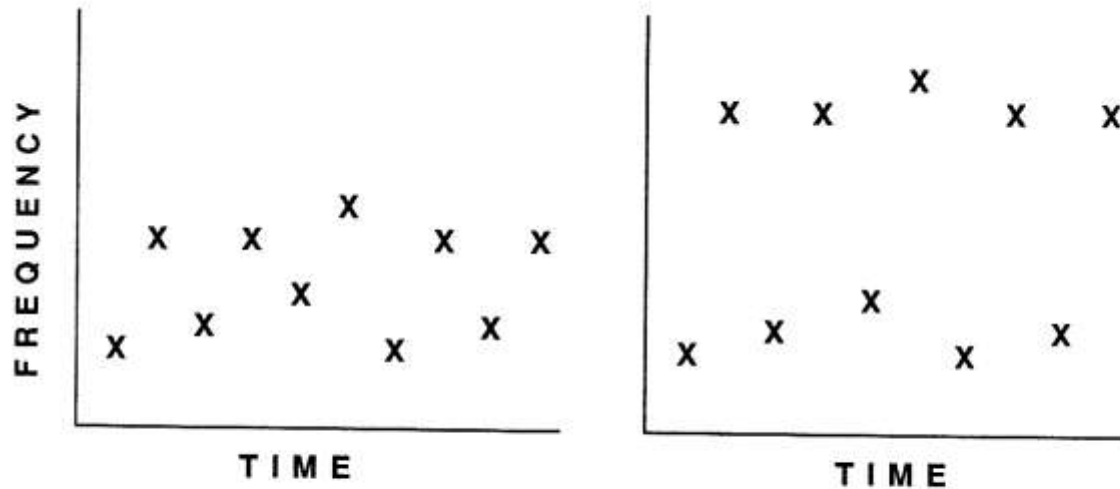
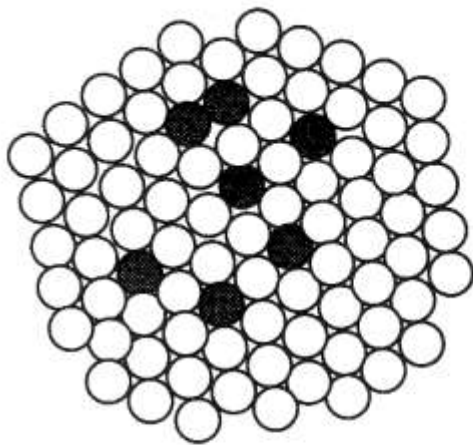
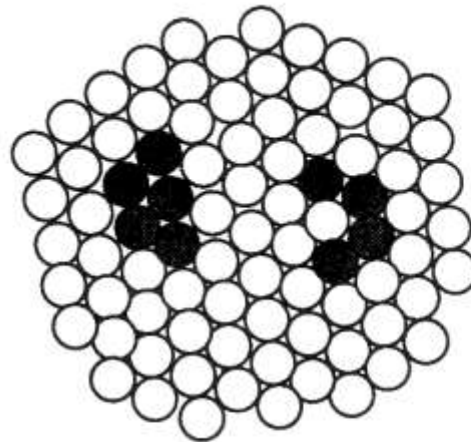


Figure 1.9
Stream segregation is stronger when the frequency separation between high and low tones is greater, as shown on the right.

Princip podobnosti a blízkosti



S I M I L A R I T Y



P R O X I M I T Y

Figure 1.11

Illustration of the effects of the Gestalt principles of similarity and proximity on visual grouping.

Zdánlivý pohyb

(apparent motion)

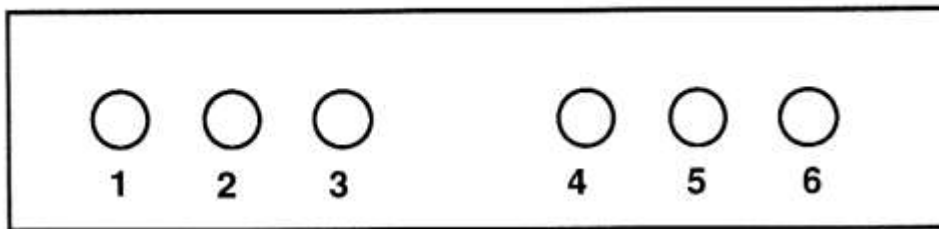


Figure 1.12

A visual display used to demonstrate visual motion segregation. Two groups of three lamps are arranged in a horizontal row.

Princip pregnantnosti (dobrého tvaru, uzavření, kontinuity)

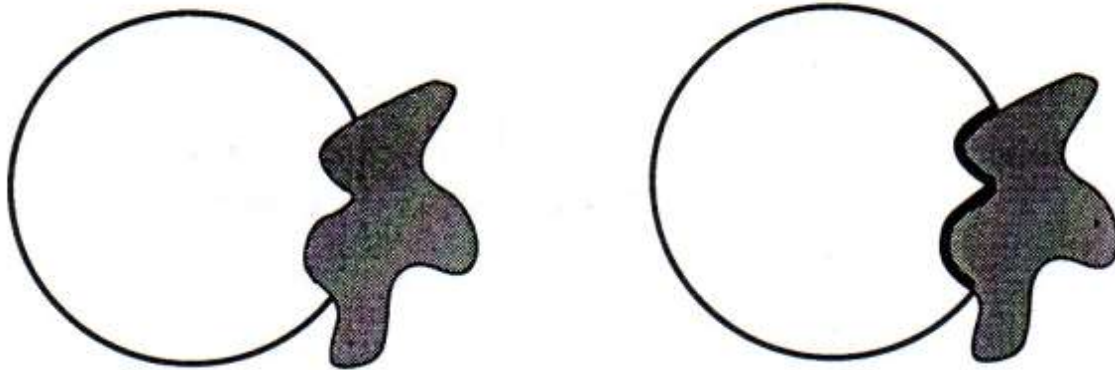


Figure 1.5

An example of “belongingness.” The dark portion of the line seems to belong to the irregular form.

Princip uzavření (chybějící informace)

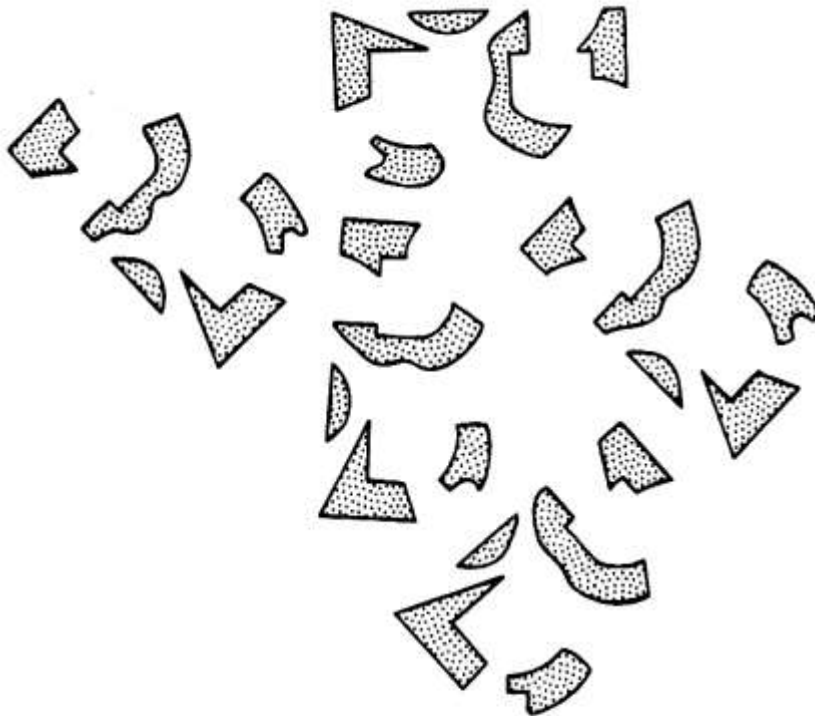


Figure 1.13

Fragments do not organize themselves strongly when there is no information for occlusion. (From Bregman 1981b.)

Princip uzavření

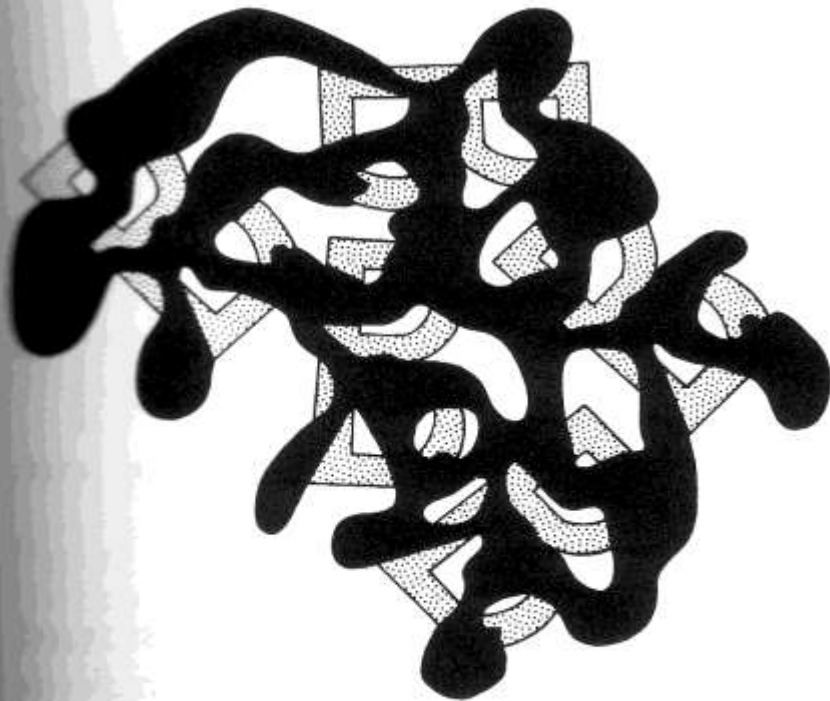
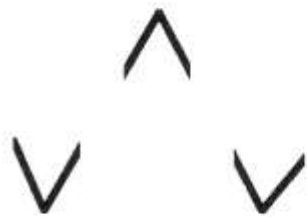


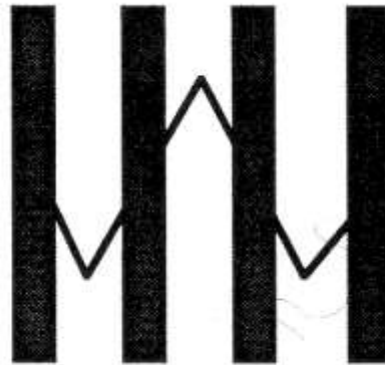
Figure 1.14

The same fragments shown earlier except that information for occlusion has been added, causing the fragments on the boundaries of the occluding form to be grouped. (From Bregman 1981b.)

Vnímaná (zdánlivá) kontinuita



NO BURSTS

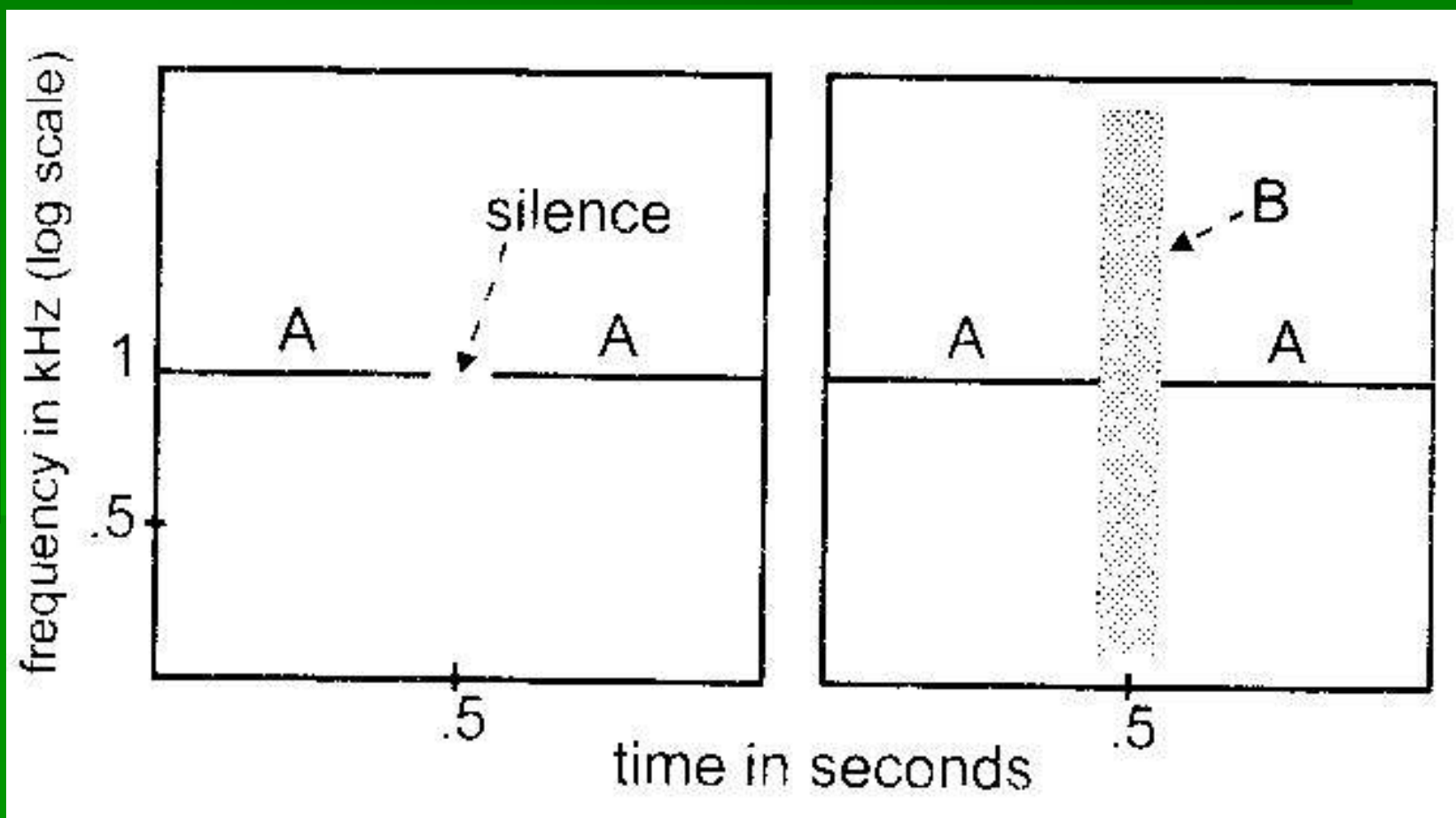


BURSTS

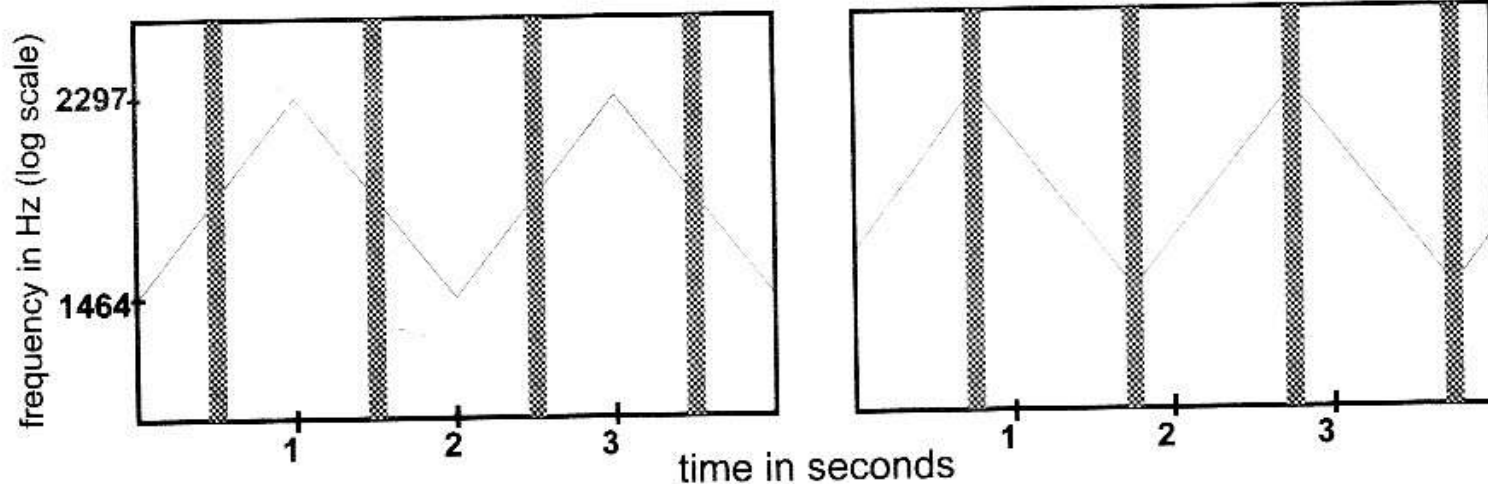
Figure 1.15

Tonal glides of the type used by Dannenbring (1976). Left: the stimulus with gaps. Right: the stimulus when the gaps are filled with noise.

Zdánlivá kontinuita (D28)



Vnímaná kontinuita glissandového tónu napříč explozemi šumu (D29)



Dekompozice komplexního tónu

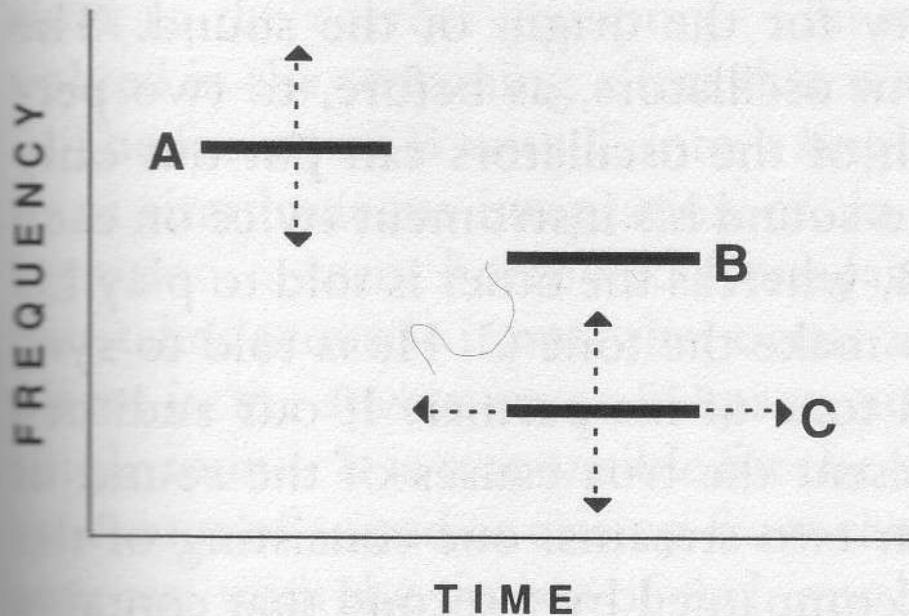
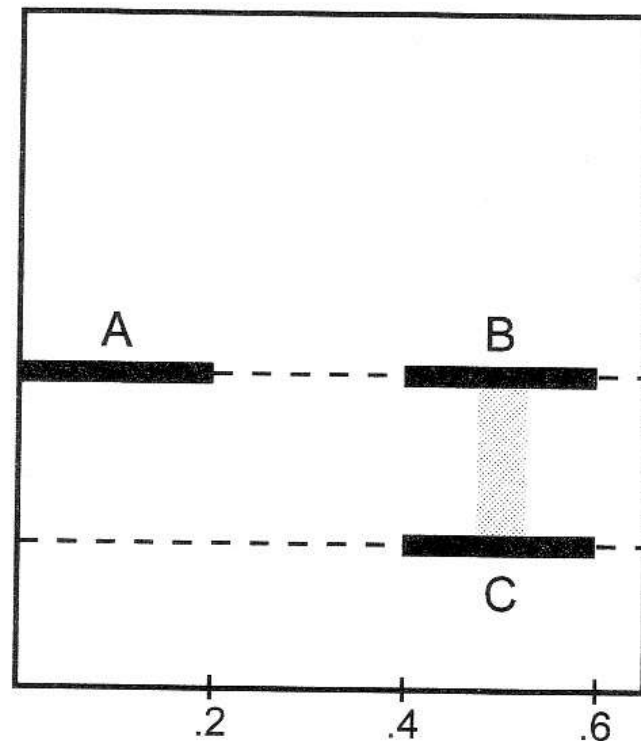
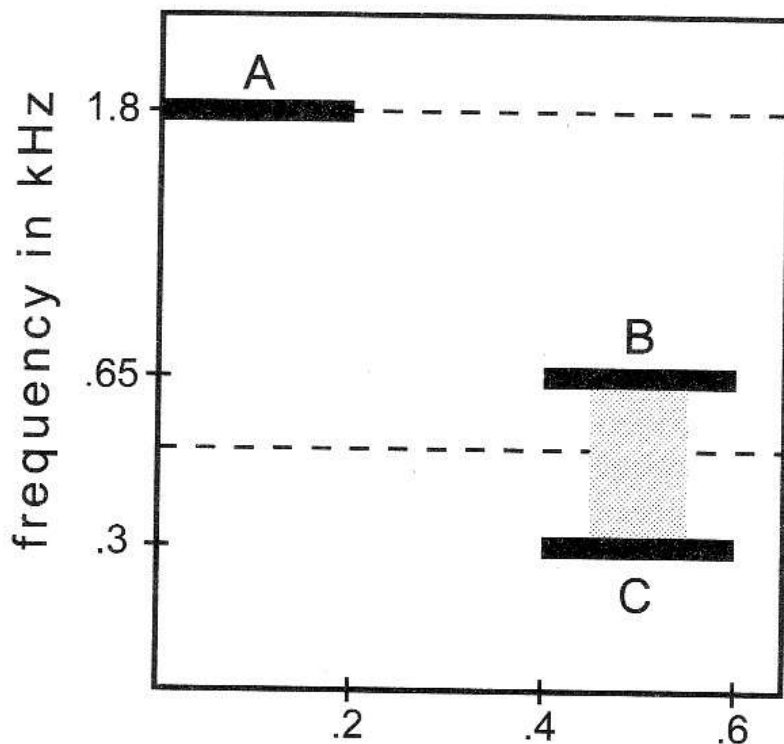


Figure 1.16

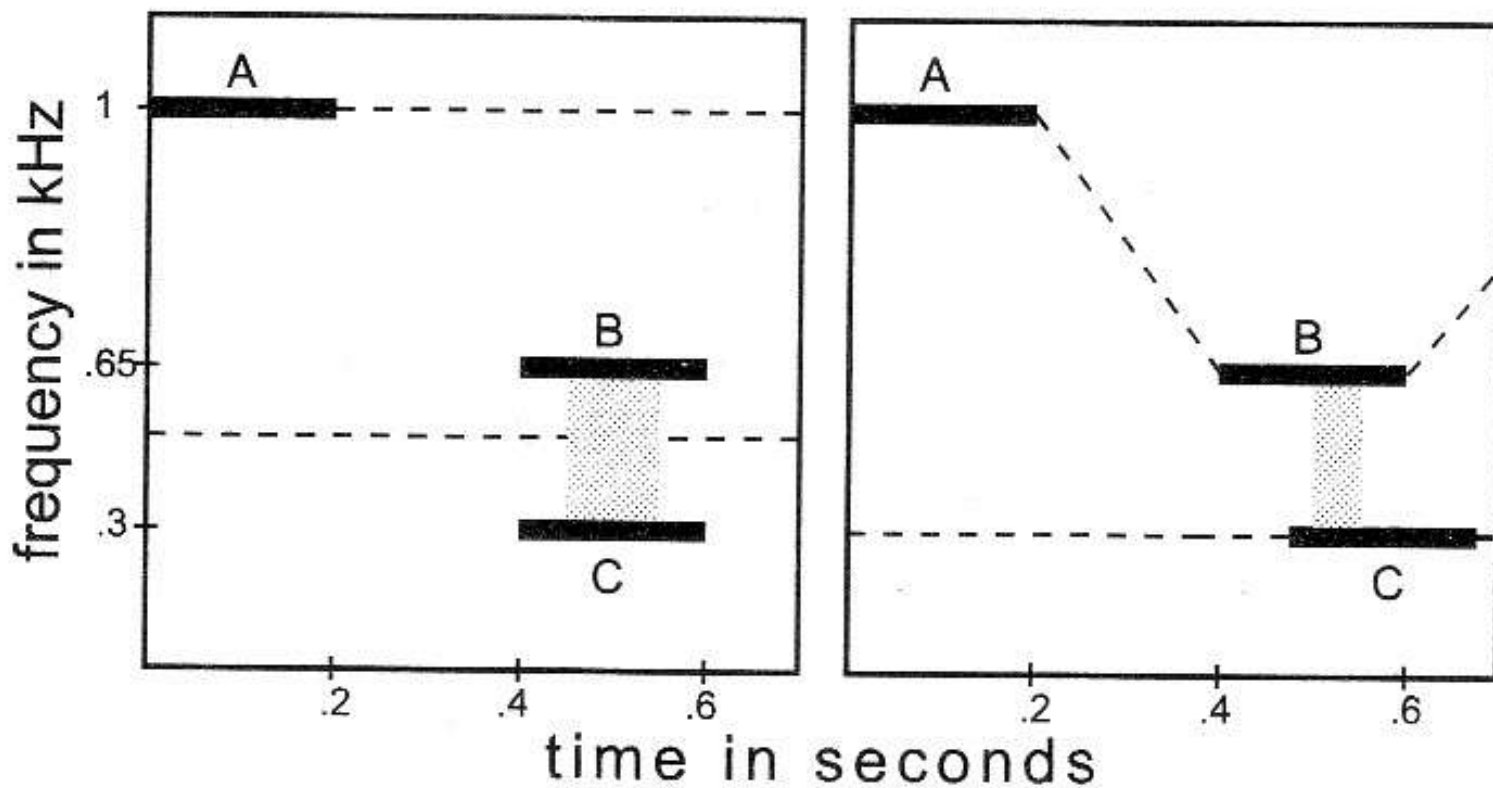
Stimulus used by Bregman and Pinker (1978). A, B, and C are pure tone components.

Zachycení tónální komponenty z komplexního tónu: část 1 (D25)

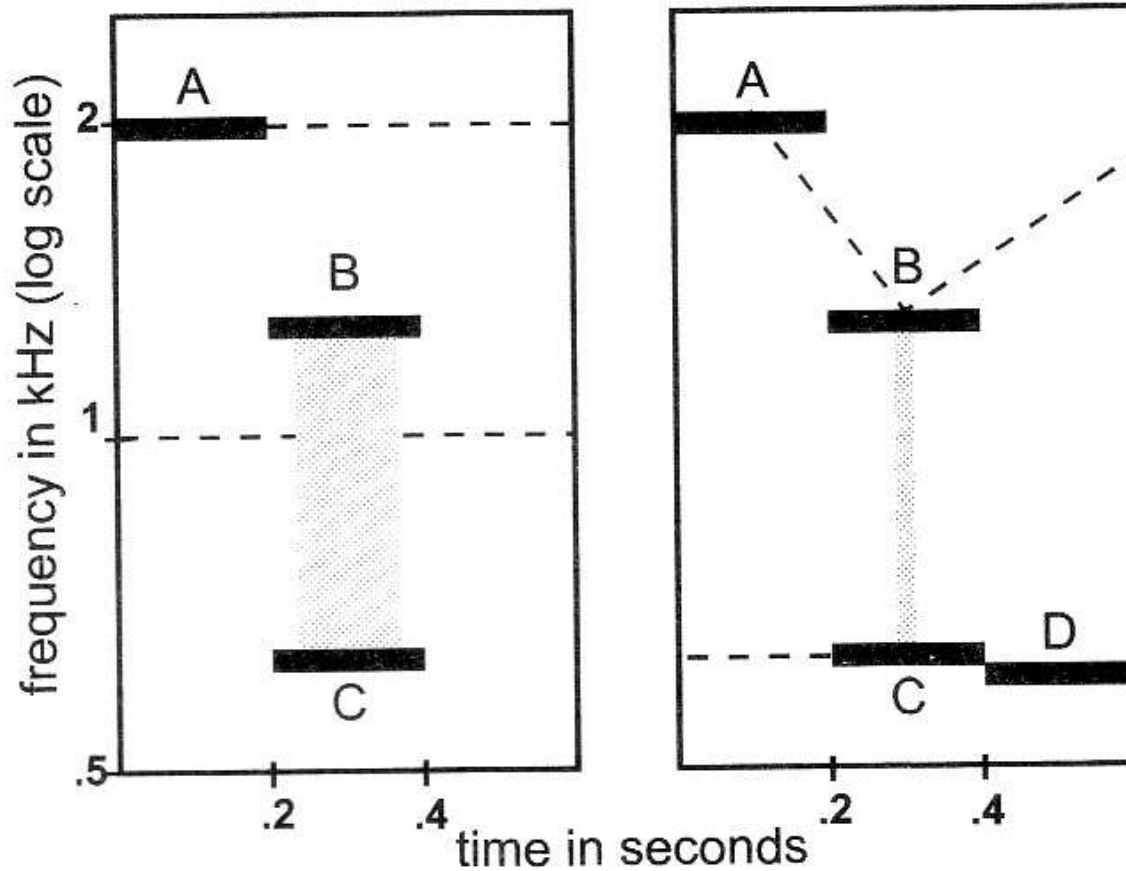


time in seconds

Zachycení tónální komponenty z komplexního tónu: část 2 (D26)

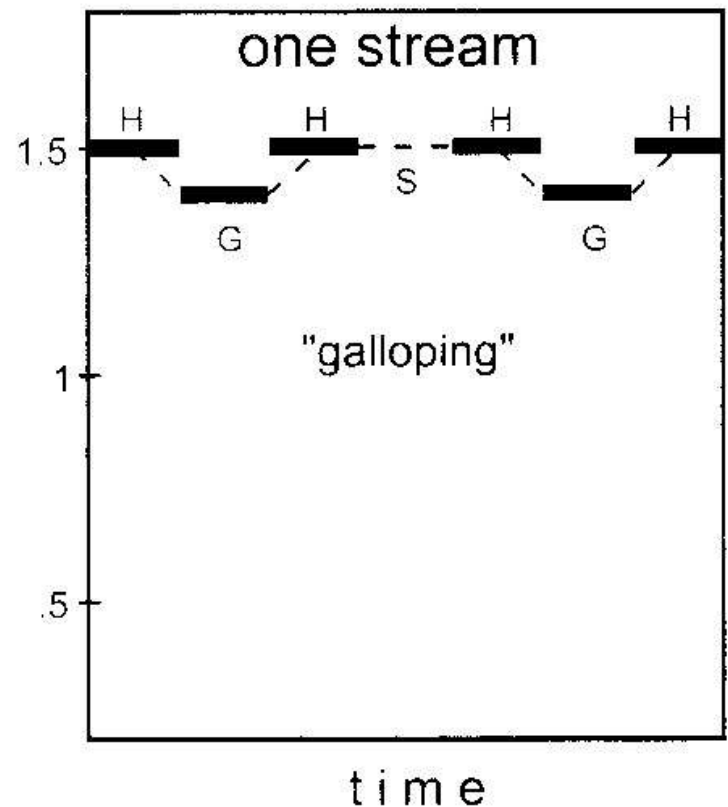
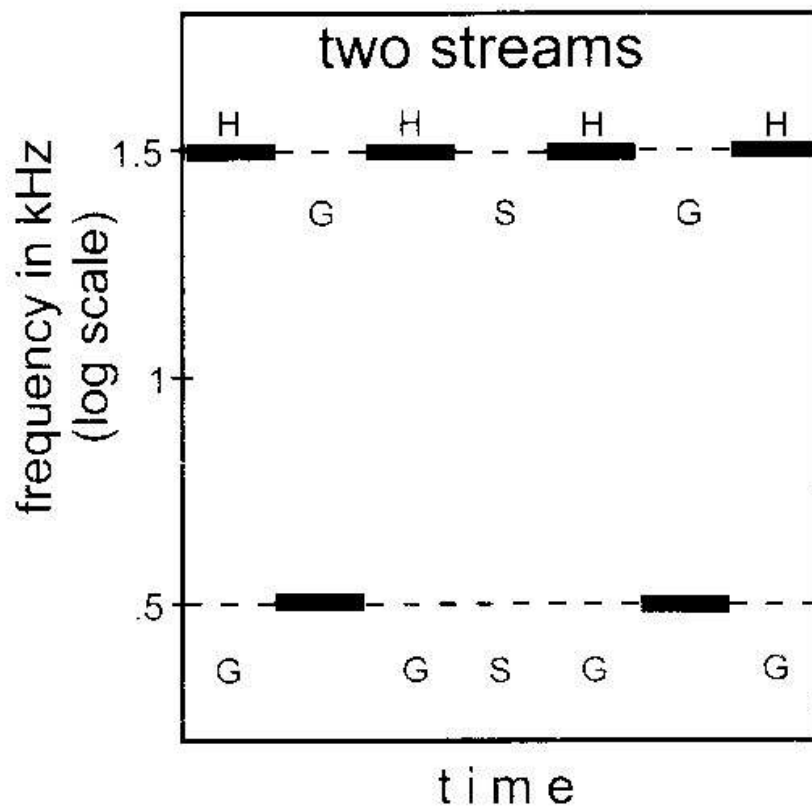


Soupeření sekvenční a simultánní integrace (D27)



Sekvenční integrace

Ztráta rytmické informace jako důsledek segregace proudů (D3) 

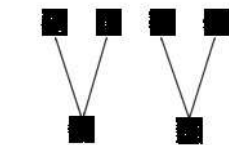


Sekvenční integrace

Kumulativní efekt opakování na utváření proudů (D4)

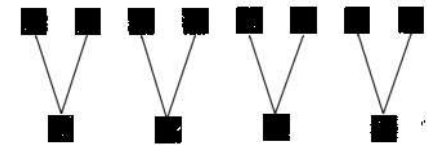


frequency



2 gallops

4 second
silence



4 gallops

t i m e

Sekvenční integrace

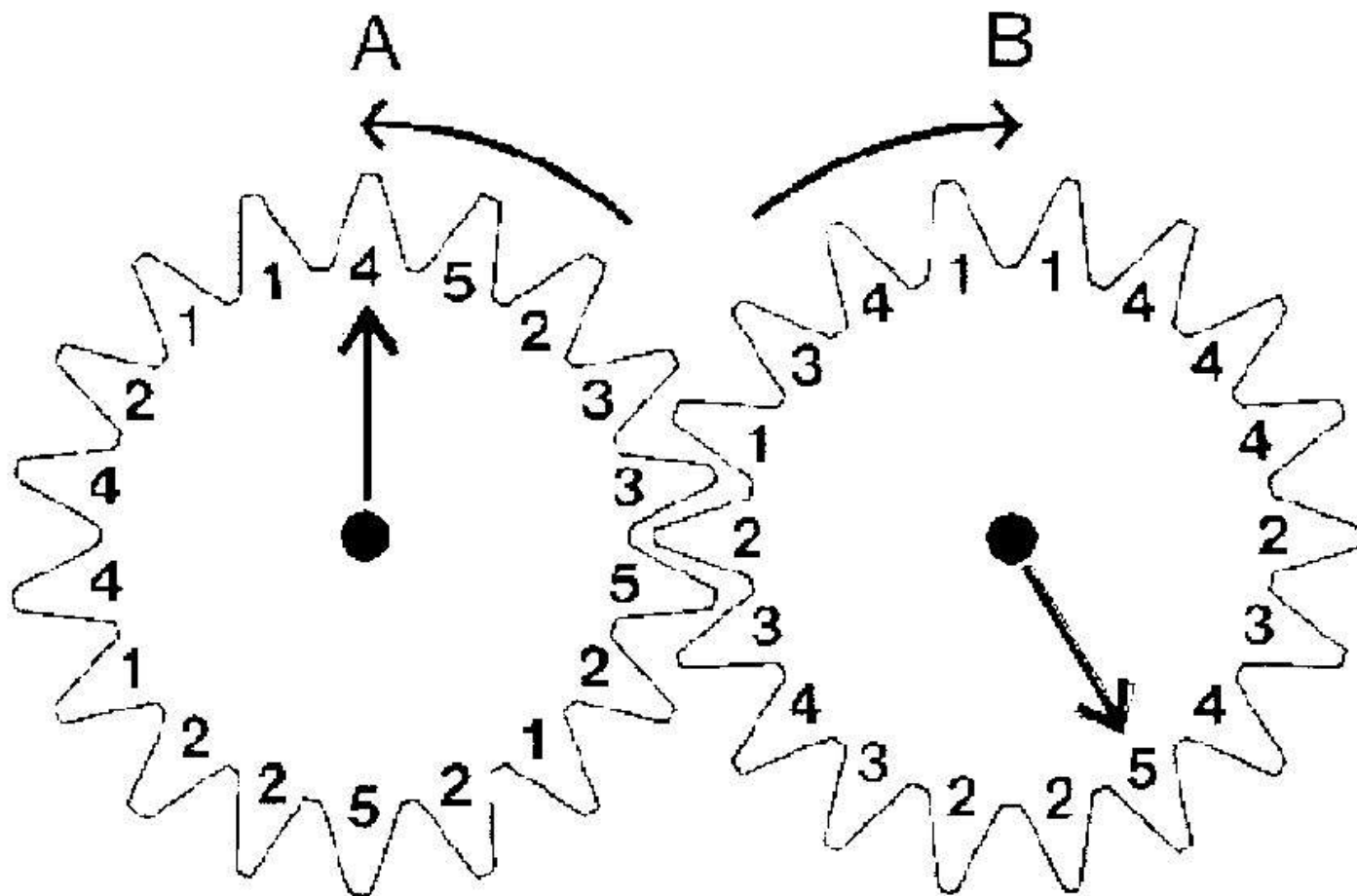
Segregace vysokých a nízkých tónů v Telemannově sonátě (D6) 



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Sekvenční integrace

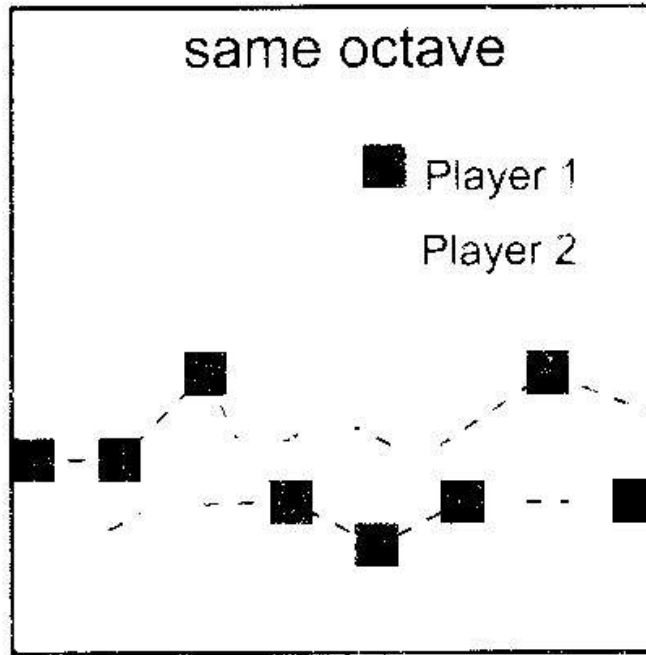
Utváření proudů v hudbě afrických xylofonů (D7) 



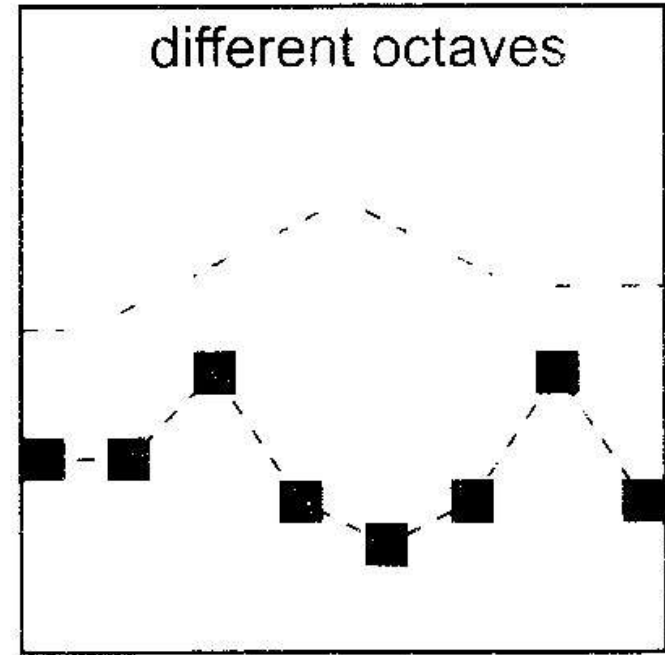
Sekvenční integrace

Vliv výškového rozdílu dvou partů (D8) 

pitch height (pentatonic)



time

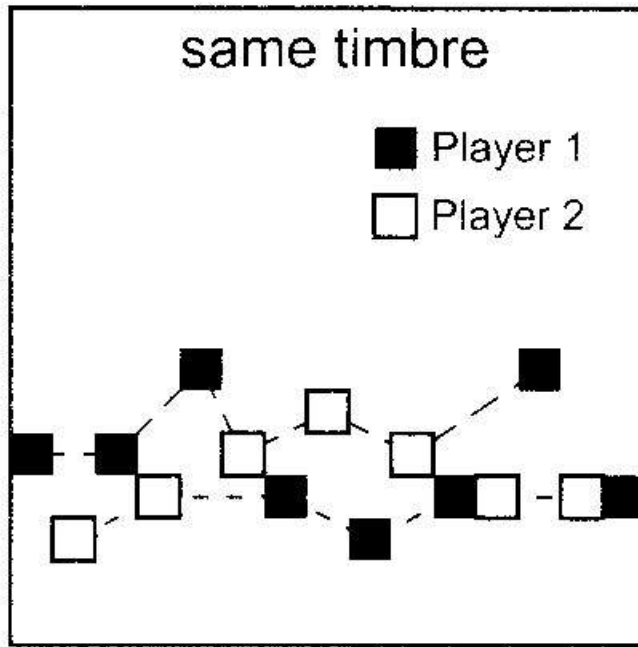


time

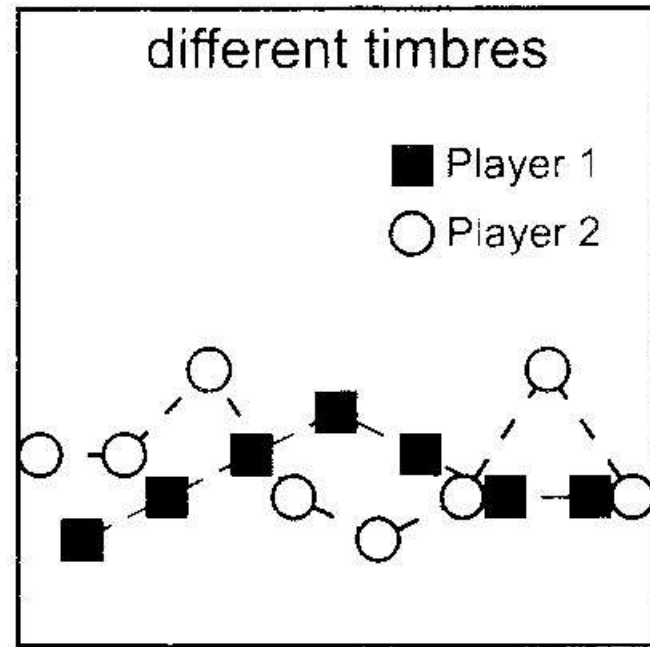
Sekvenční integrace

Vliv výškového rozdílu dvou partů (D9) 

pitch height (pentatonic)



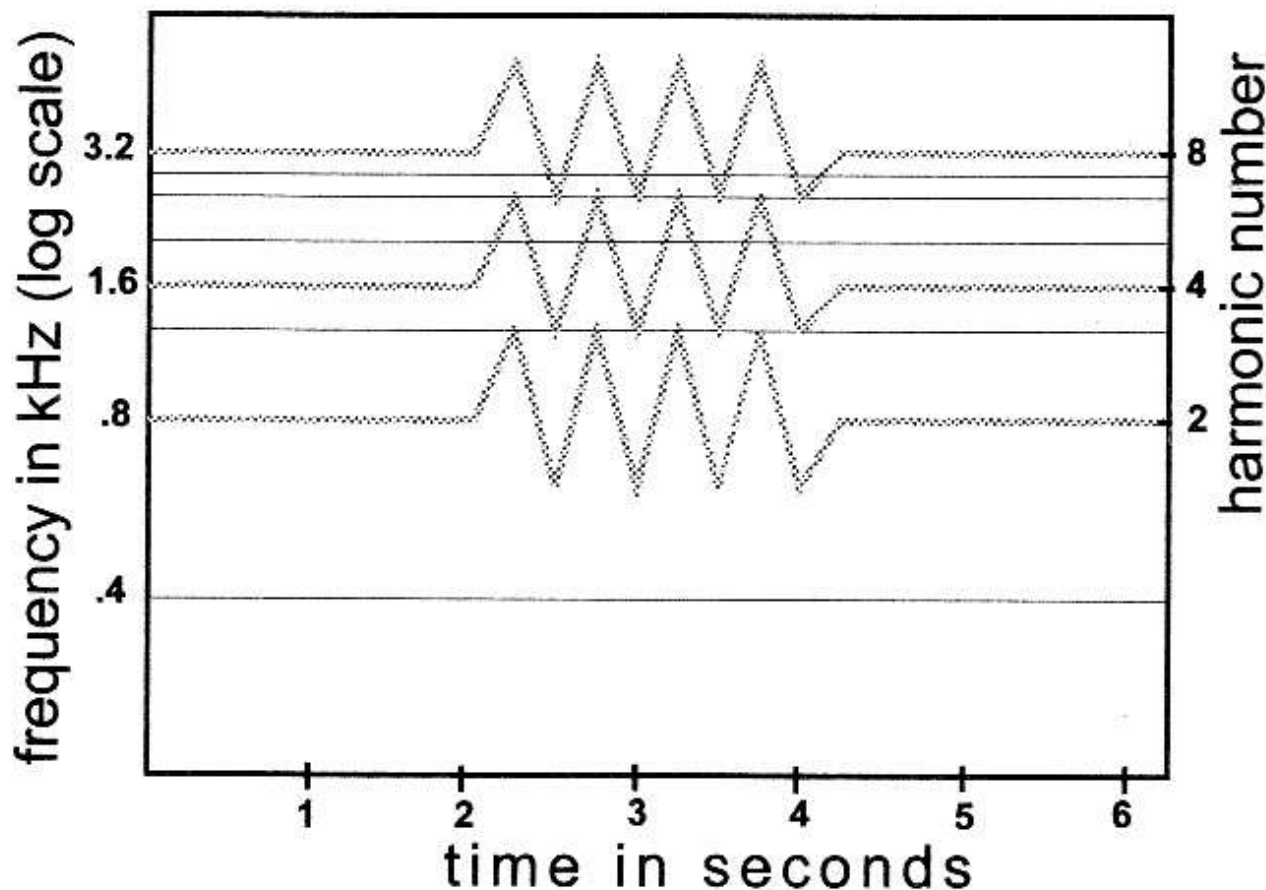
time



time

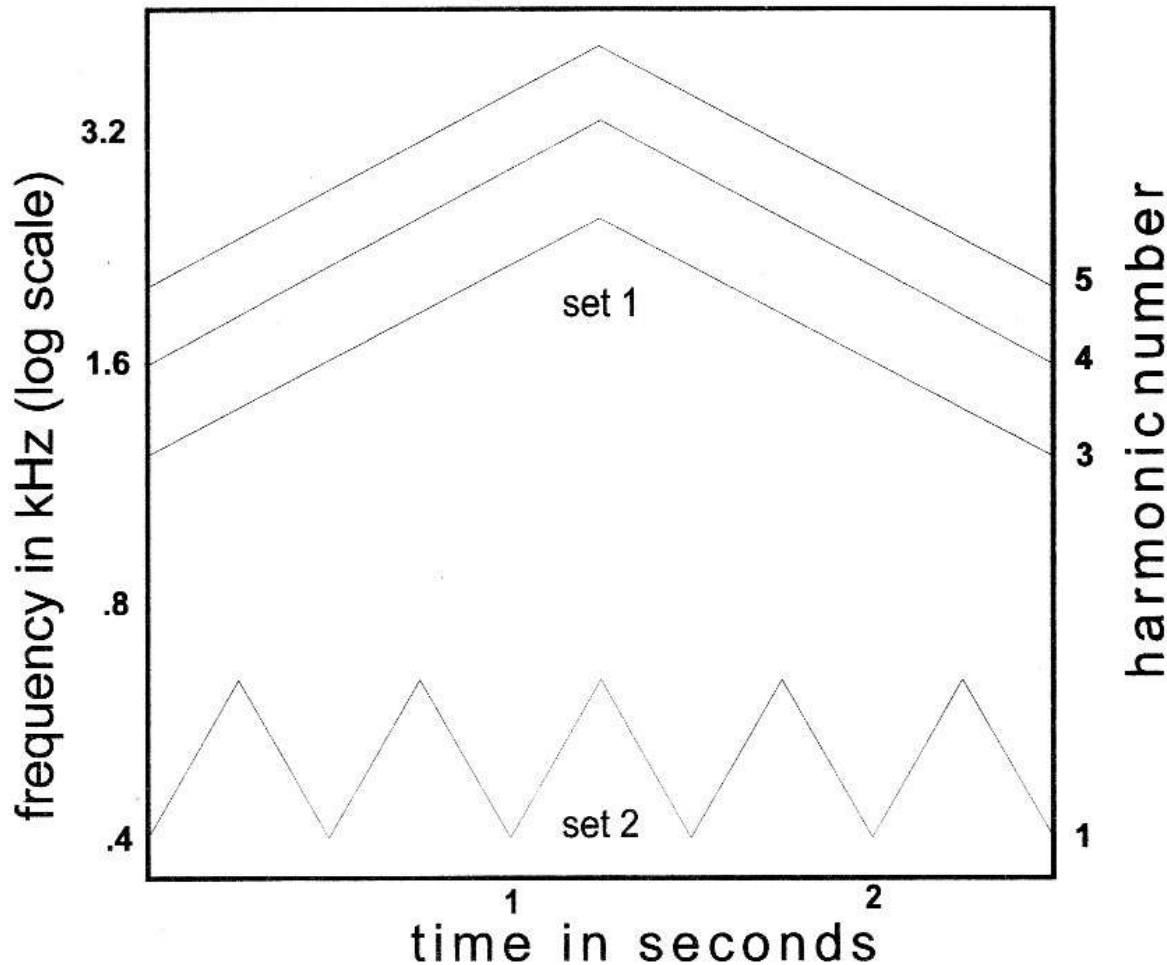
Simultánní integrace

Splývání založené na společné frekvenční modulaci: *část 1*
(D19) 



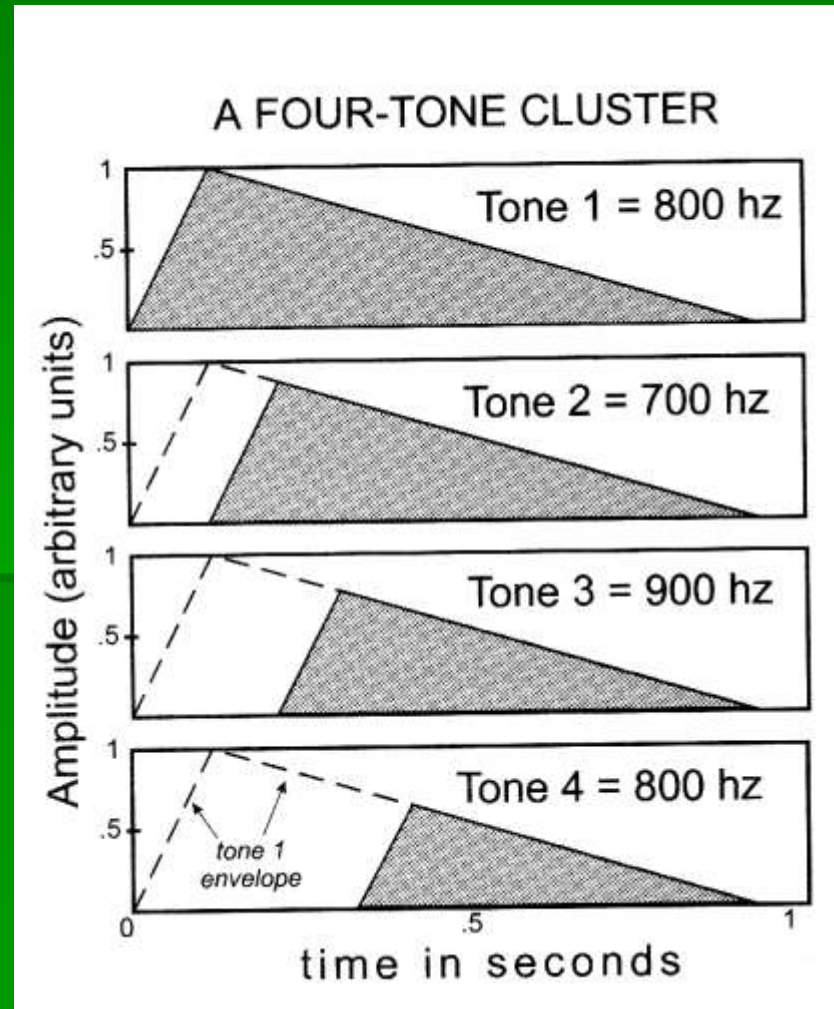
Simultánní integrace

Splývání založené na společné frekvenční modulaci: *část 1*
(D20) 

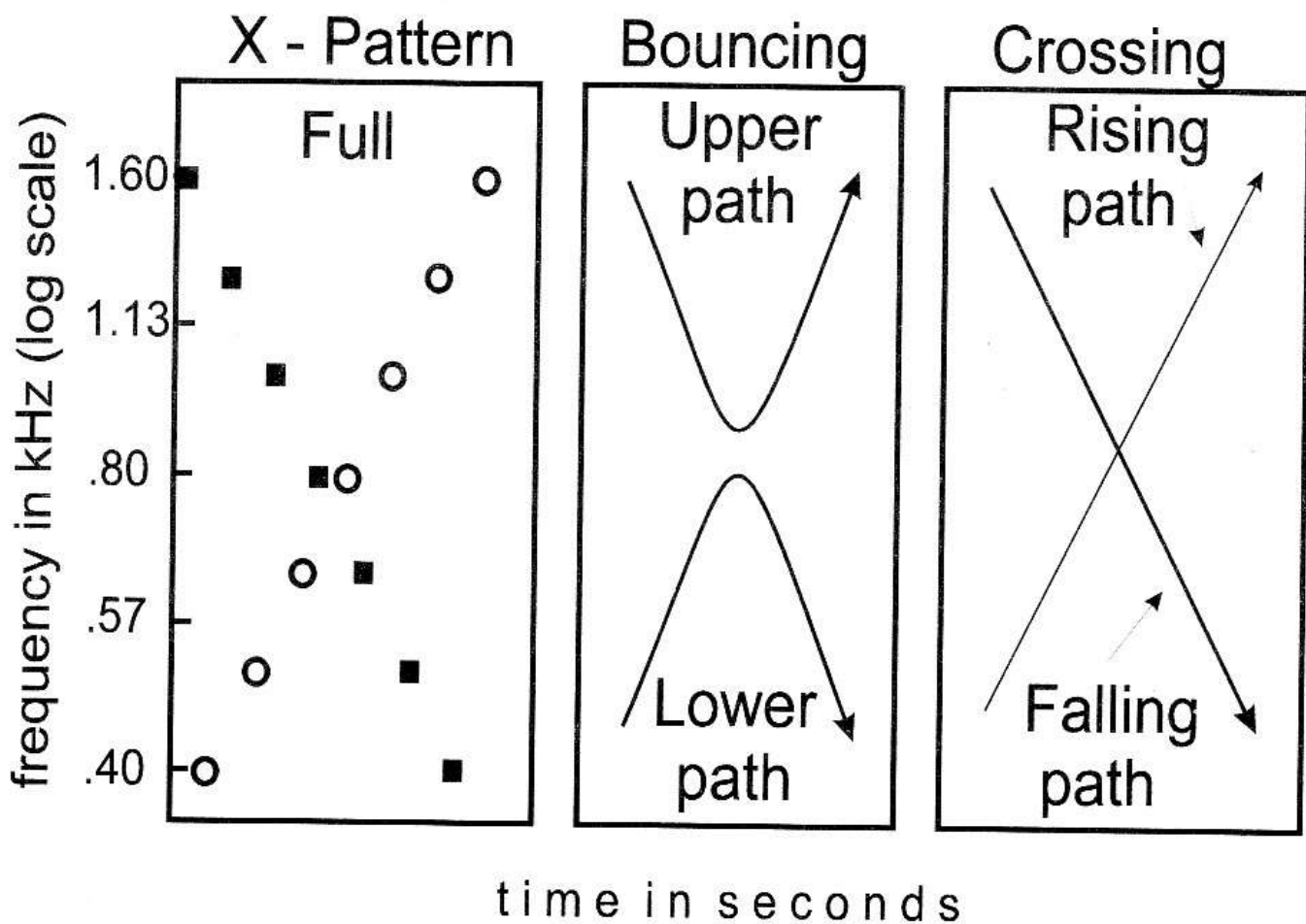


Simultánní integrace

Vliv segmentu nástupu na segregaci (D21)



Nemožnost sledovat křížící se trajektorie (D17)



Dva mechanismy segregace

- Primitive segregation
 - Schema-based segregation
-