

Rhythm and Groove

Observations in evenly hovering attention

PROF. DR. DR. MICHAEL B. BUCHHOLZ

AND

MICHAEL M. DITTMANN (M.A.)

„Junktim‘ or Freud’s package deal

- ▶ “In psychoanalysis there has existed from the very first an *inseparable* **bond between cure and research**. Knowledge brought therapeutic success. It was impossible to treat a patient without learning something new; it was impossible to gain fresh insight without perceiving its beneficent results.” (GW XIV, p. 293)
- ▶ „Nothing is going on between analyst and patient but an **exchange of words**. They are just talking“. (GW XIV, p. 213)

„Evenly hovering‘ attention

- ▶ Freud recommends what is translated as „evenly suspended attention“. However, the better translation for the German phrase (as above) is
- ▶ „**evenly hovering attention**“- there is a sense of „mind/spirit hovering above the waters“ in the German phrase which we want to maintain as it reproduces the type of listening characterizing what happens in psychoanalytic sessions.

What about Time?

„After the analyst has introduced the patient into the analytical situation, explicit, symbolic communication begins. The analyst invites the patient to talk to him, listens and, from time to time, he himself talks. When he talks, he talks *not to himself nor about himself qua himself but **to the patient about the patient***. His purpose in talking is to extend the patient's awareness of himself [...]

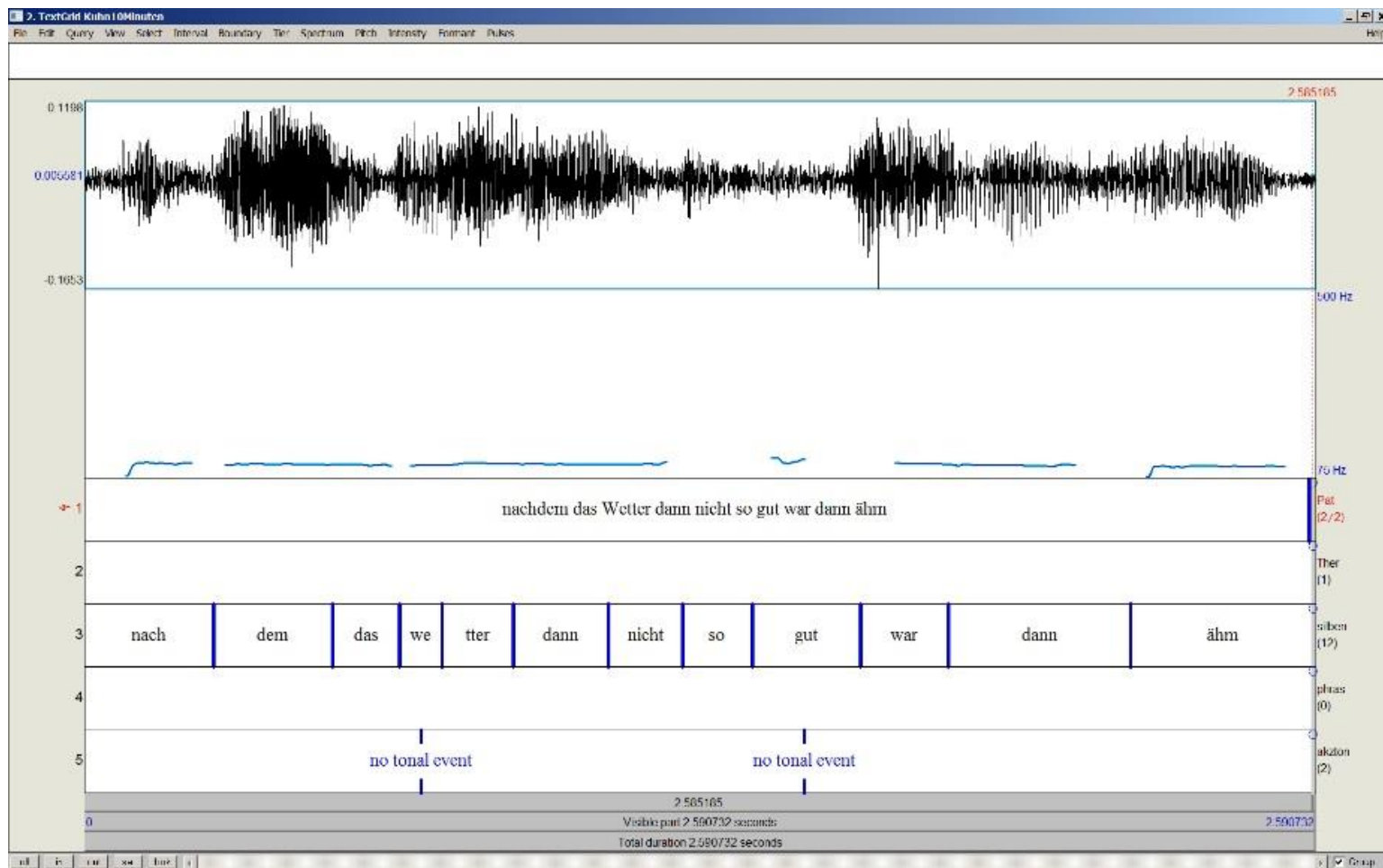
(Charles Rycroft, 1956)

Some baby talk conversation
(and much more)



From the other's perspective...





A PRAAT-Example for
a patient talking flat
– without
prominence
contours

Why language at all if we have ...

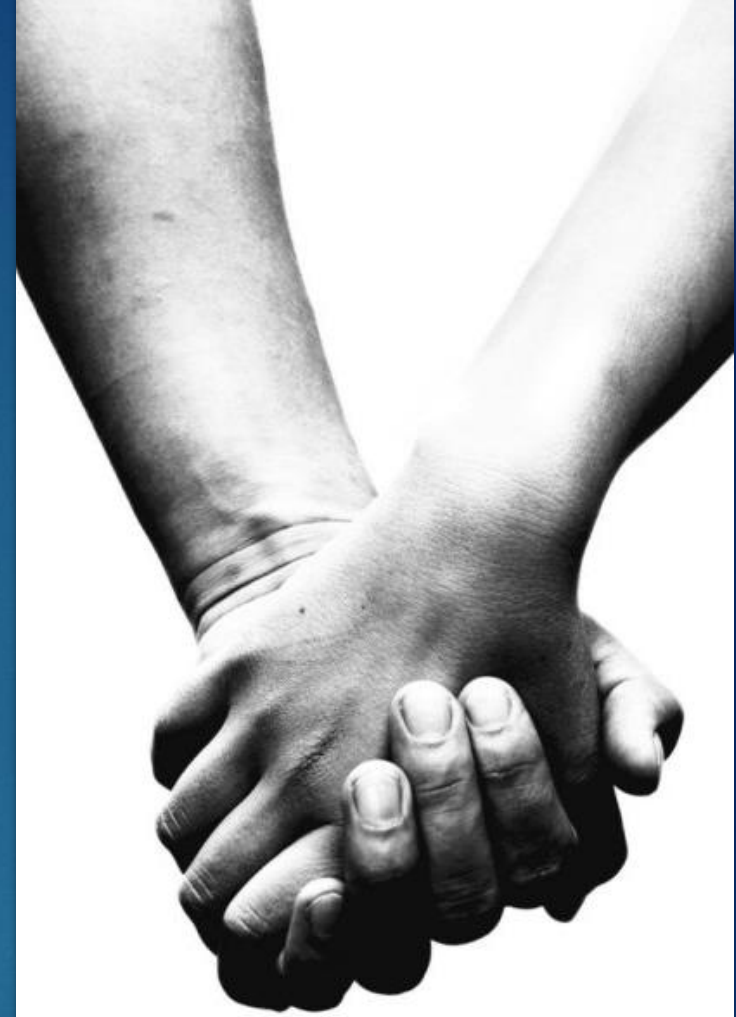
- ▶ ... „**interbrain synchronisation** during social interaction“ (Dumas, Nadel, Soussignan et al. 2010) ?
- ▶ ... „**inter-subject synchronization** of brain responses“ (Abrams, Ryali, Chen et al. 2013) ?
- ▶ ... „**brain-to-brain coupling**“ as „a mechanism for creating and sharing a social world“ (Hasson, Ghanzanfar et al. 2012) ?
- ▶ ... „Empathy, **mirror neurons** and SYNC“ (Praszkie 2014) ?



Doing together to do together

“The fact that there is a job that any person could clearly do by themselves (sic), provides a resource for members for permitting them to show each other that whatever it is they’re doing together, they’re just doing together to do together.”

(Sacks [1965] 1992, 147)



To Do Rhythm in Therapy



T: STATT des Kampfes
bis aufs Messer ins
<Kloster> (1) °um°

P: °bitte?°

T: statt des Kampfes
bis aufs Messer=

P: =ja=

T: =ins
Kloster

T: INSTEAD of fight to
the knife in the
<abbey> (1) °to°

P: °pardon?°

T: instead of fight to
the knife=

P: =yes=

T: =in the
abbey

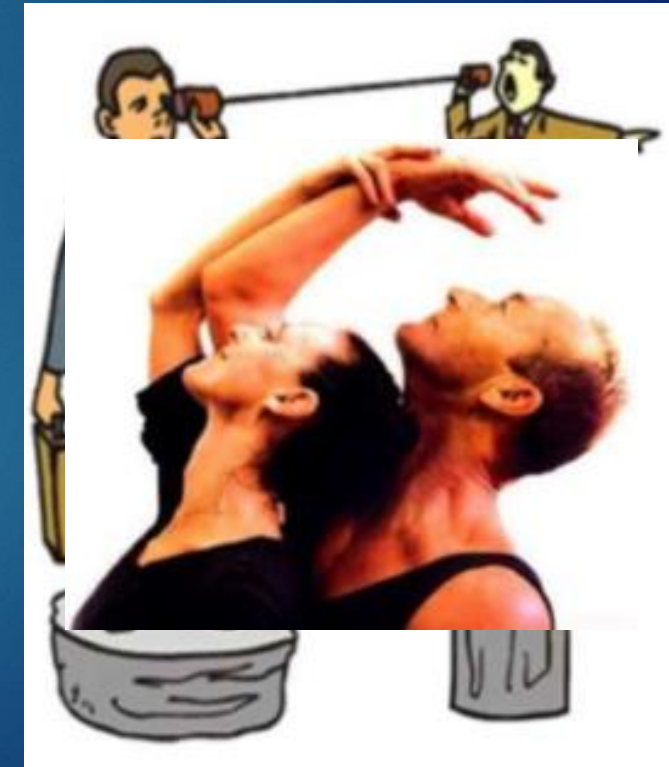
Christoph Rühlemann (2007): interactional tasks

- ▶ Shared context
- ▶ Co-construction
- ▶ Discursive presentation
- ▶ Real-time processing
- ▶ Relation management

- ▶ Rhythm (1) = behavior in time
- ▶ For Gumperz: "prosody is not an accidental or derivative addendum to the linguistic data [...] but an essential part of interaction"
- ▶ and the same holds for rhythm!

A New Rhythm in Conversation

- ▶ Talk as event between **people thinking about thinking people** (Cacioppo et al. 2006)
- ▶ Rhythm (2) frames phonetic events while constructing meaning.
- ▶ Rhythm (3) can be understood as frame for the organization of **meaning with respect to expected events in time**
- ▶ “What makes for an analytic mentality in the study of conversational rhythm? It is attention to the **auditory shape of utterances** as objects produced in and of time” (Auer et al., 1999, p. 36)



Method

- First: **GAT-2-Transcribing** 152nd Session of Amalie X
- Second: Applying **Conversation Analysis**
 - Independent variables: *three conversational therapeutic practices*
- Third: **Rhythm Analysis** of practices
 - Dependent variables: *three rhythm codes (speechrate, density, relevance)*

TRANSCRIPT AMALIE 152ND SESSION

1 T: Frau Amalie X. am 25. Oktober 1974
2
3
4 490 P: aber seit Sonntag "geht überhaupt" "nichts mehr"
5 491 T: Nur weil (.) seit Sonntag offenbar haben Sie besonders sich
6 492 drum bemüht den äh (1) äh hier nicht mehr äh zu (...)
7 493 1053 T: Aber es würde auch Ihnen äh sein äh gesch: (1) Sie
8 494 1054 könnten mich dann schonen und sich selbst (.) nicht? Sie
9 495 1055 äh=
10 496 1056 P: =Ja! Sie könnt ich draußen lassen und (2) Sie dürften
11 497 1057 dann Ihre Dogmen
12 498 1058 T: JA JA
13 499 1059 P: behalten
14 500 1060 T: JA
15 501 1061 P: ich müß dann >>wirklich nicht<< (-) >würd ich nicht mit
16 502 1062 Ihnen kämpfen<
17 503 1063 T: mh mh
18 504 1064 (1)
19 505 1065 P: Das stimmt! (2) müß Ihnen auch nicht den Hals abreißen
20 506 1066 T: Ja! Aber Sie würden dann auch nicht mit Ihren Dogmen meine
21 507 1067 befruchten oder?
22 508 1068 P: Nein! (1) [Wär wieder so (...) wie der Feind [Ich würde
23 509 1069 zwei Fronten
24 510 1070 T: [Äh (1) meine (.)
25 511 1071 [ersetzen meine ersetzen
26 512 1072 P: haben! So: wie eben
27 513 1073 T: mh mh
28 514 1074 P: (())
29 515 1075 T: meine ersetzen denn mit den Eingriffen in die Gedanken (.)
30 516 1076 Ihren Eingriffen in meine Gedanken (-) in mein' Kopf
31 517 1077 würden=würden Sie ja was ändern äh (2) wollen und können
32 518 1078 P: [ja:
33 519 1079 T: "mh mh"
34 520 1080 P: Ja: (1) es wär wieder ein Davonlaufen? (1.5) Wissen Sie
521 1081 ich muss Ihnen das nochmal grad sagen was da alles noch
522 1082 kommt
523 1083 T: mm
524 1084 P: oder was da alles immer noch kommt
525 1085 T: mm
526 1086 P: Egal ob ich im Bad steh oder am [Schreibtisch
1087 T: [mh Ja
1088 (3)
1089 T: Ja
1090 (4)
1091 T: am Montag [dann

Rhythmic alignments of practices

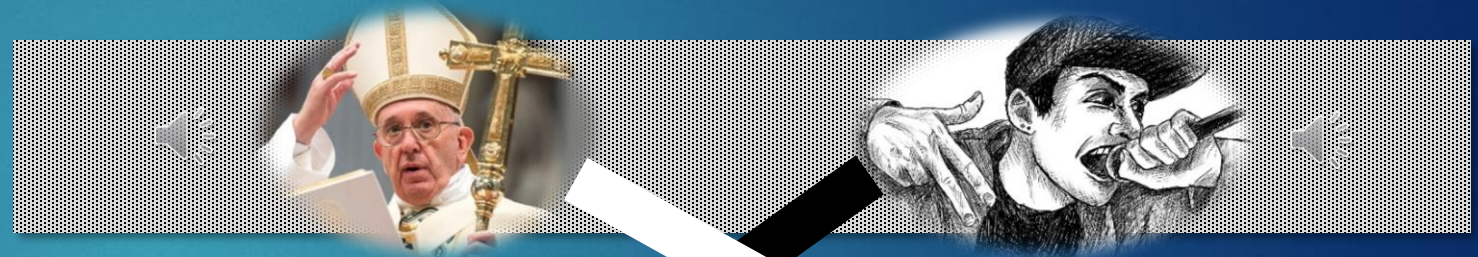
Three Rhythm Codes or Paths to Relevance

(Auer, Couper-Kuhlen & Muller 1999)

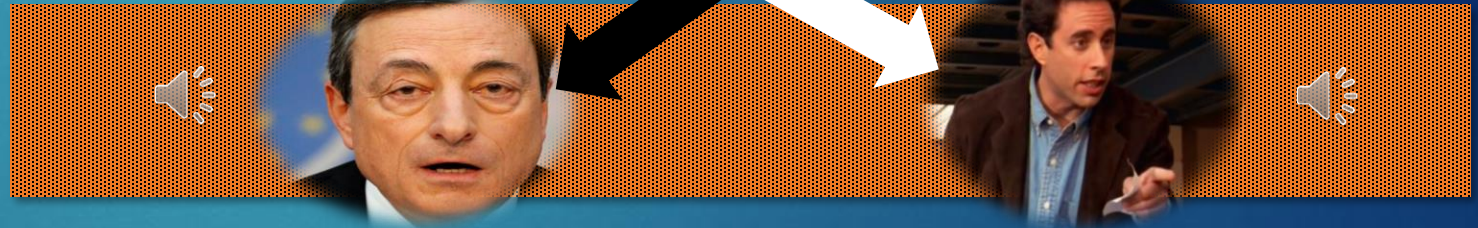
Low

High

Speech rate: syllables
Per second



Density: ratio of stressed
To unstressed syllables



Relevance: Ratio of
density to speech rate

**Low relevance
(fastly monotonous)**

**High relevance
(with emphasis)**

Perception of *being perceived*

Are there reasons for
rhythmic
synchronization

?

Mutual monitoring:

"persons must sense that they are close enough to be perceived in whatever they are doing, including their experiencing of others, and close enough to be **perceived in this sensing of being perceived**"

(Goffman, 1963: 17)

Mutual Monitoring



Th: es geht ja (.) öh
wirklich auch (.) so (.) sehr
>um um< Gedanken >und (.)
und< äh das was im Kopf ist
[im Kopf

A: [JAha

Th: auch ist
äh was Sie denken was ich
denke [und sehr

A: [ja°ha°

Th: viel mehr über die
Gedanken zu dem zu kommen was
Sie sind und ich bin

Th: its certainly about (.) err
actually also (.) so (.) much
>about about< thoughts >and (.)
and< err what is in the head
[even is

A: [yeah

Th: in the head err
what you think what I think
[and much

A: [yeah

Th: more to get through
thoughts to who you are and who
I am

Bateman and Fonagy (2016)

"The patient has to find himself in the mind of the clinician and, equally, the clinician has to understand him/herself in the mind of the patient [...]. Both have to experience **a mind being changed by a mind.**"

Rhythm is it!

Three Types of Conversational Therapeutic Practices

- ▶ Colloboratively Constructed Utterance (CCU)
 - ▶ as „dancing together“ (Buchholz and Reich, 2015)
- ▶ Agenda Transforming Utterance (ATU)
 - ▶ as co-transformation
- ▶ Typical Problematic Situation (TPS)
 - ▶ as potential break down of ‚interaction machinery‘

Collaboratively Constructed Utterance (CCU)

Joe: (cough) We were in an automobile discussion=

Henry: =discussing the psychological motives for =

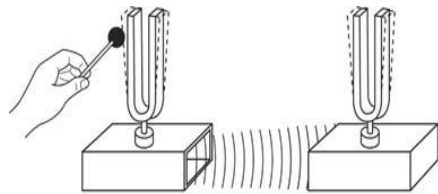
Mel : =drag racing on the streets.

(Sacks, 1992, pp. 144-145)

1st phase:

Mutual monitoring
prepares a shared
,attentional space'

Entrainment



2nd phase:

Jointly producing
utterances **,out of one
mouth'** manifests „shared
intentionality“

Groove



CCU *Entrainment*: Shared attention



A: °ach, wissens manchmal (1)
hab ich das Gefühl (1) ich
müsste auf Sie zustürzen und
Sie am Hals packen und ganz
festhalten und dann?

Th: mhm

A: Dann denke ich, das schafft
der gar nicht, das hält der gar
nicht aus

Th: hm

A: dann seh ich wie Sie auch
irgendwie (1.6) BRENNen

A: °oh, you know sometimes
(1) I feel like (1) I had to
make a beeline for you and
seize your neck and hold it
tight and then?

Th: mhm

A: then I think he won't
cope with it, he won't stand
it

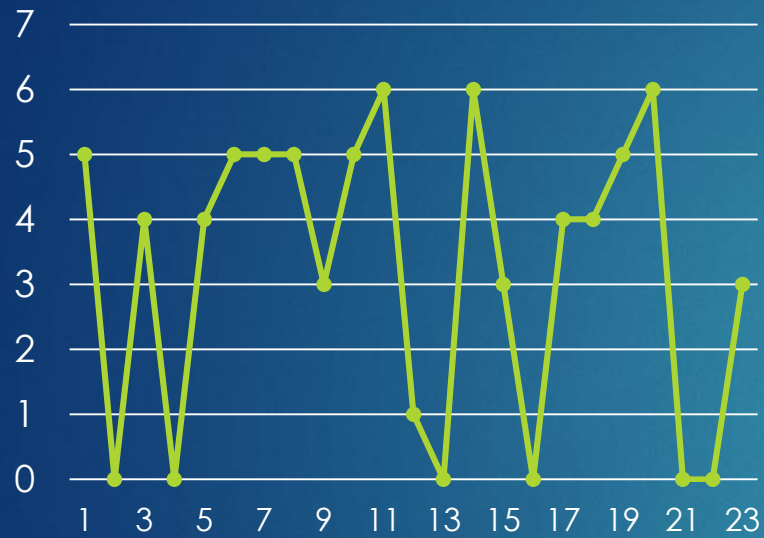
Th: hm

A: then I see somehow how
you (1.6) BURN

- **Shared attention:** Amalie directs therapist's attention, and perceives therapist as someone perceiving her and enters a ,metaphorical state'

CCU *Entrainment*: Overview of Rhythmic Process

Speechrate



TIME in seconds

Density



Th: hm

Relevance



- Speechrate oscillates between fast and slow
- Seesaw technique: tension processing high

- Density normal with peaks
- Means of contrasting as expression of assertion –
- „My mind is with you“

- Relevance unfolds in a low way
- High peak as rhythmic sign of shared attention

CCU **Groove**: Co-creating we-intention



Th: Dass ichs nicht aushalte dass
ich [äh

A: [JA

(---)

Th: >nicht ertragen kann, Sie nicht
ertragen kann< u::nd=

A: =ja: dass ich
Sie festhalt

Th: mhm:

Th: that I don't stand [err

A: [YES

(---)

Th: >that I don't bear to,
can't bear you< a::nd=

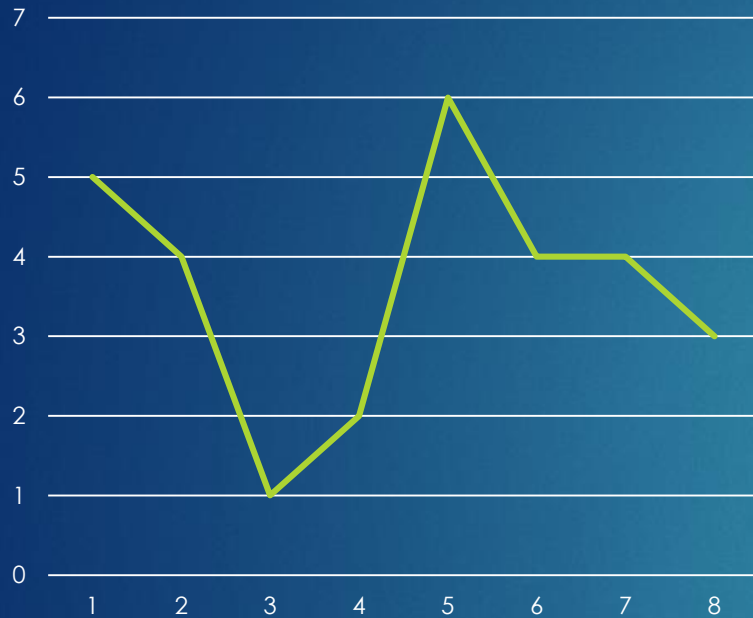
A: =yes:
that I hold you strongly

Th: mhm:

- **Shared intention:** Therapist reformulates Amalie's intention and Amalie co-constructs this formulation by filling the ,slot'
- We-intention is realised by ,speaking out of one mouth'

CCU **Groove**: Overview of Rhythmic Process

SPEECHRATE



DENSITY



RELEVANCE



- Speechrate high with pause
- High onset-tension level with projected rhythmic expectations
- Density increasing
- Means of consistence as expression of assertion
- Relevance unfolds in a continuously rising way

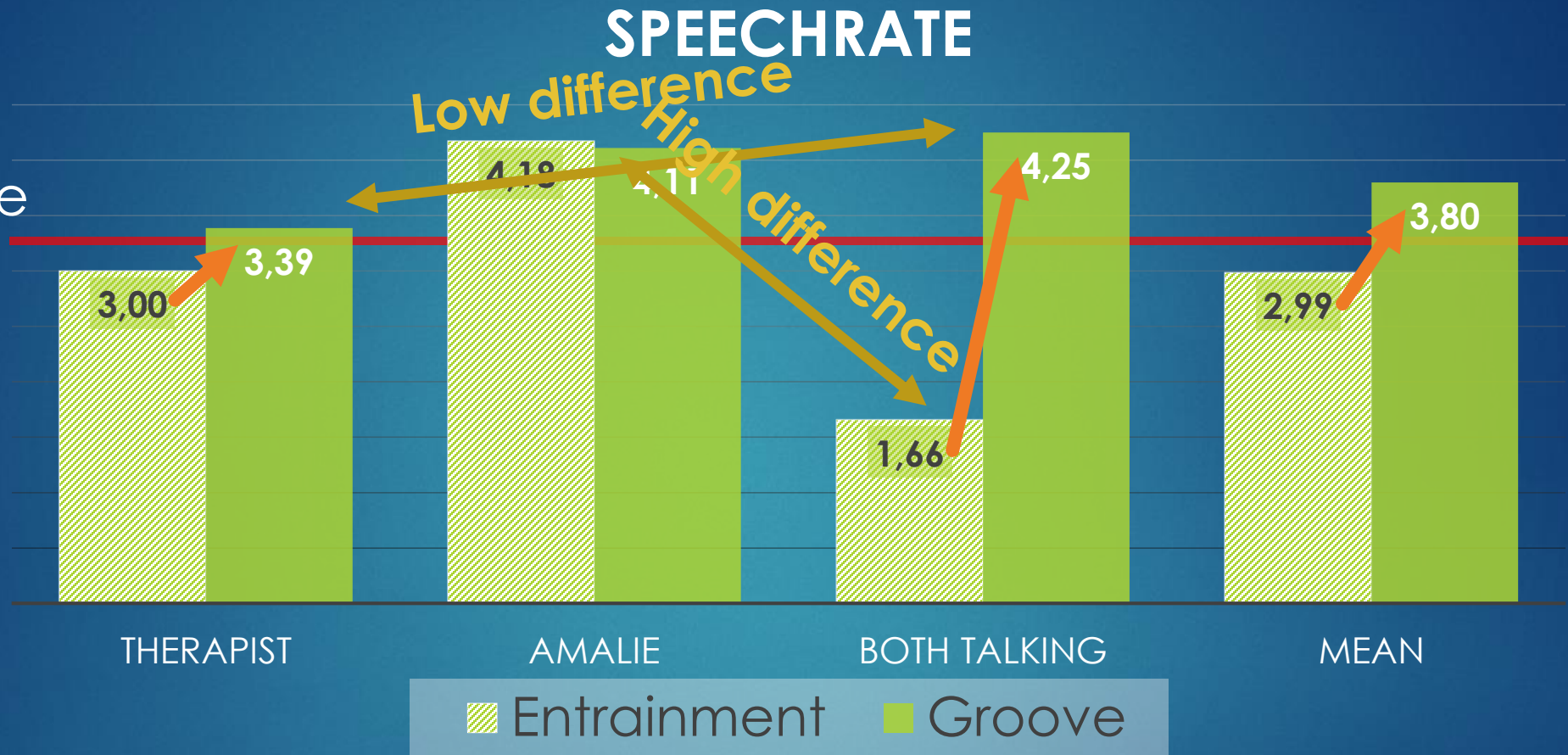
- ▶ How to compare rhythmic differences between speakers?

Rhythmic Alignment !

(is the difference between the highest and the lowest mean value)

Change Process from Entrainment to Groove

Mean
speechrate
sample
= 3,28



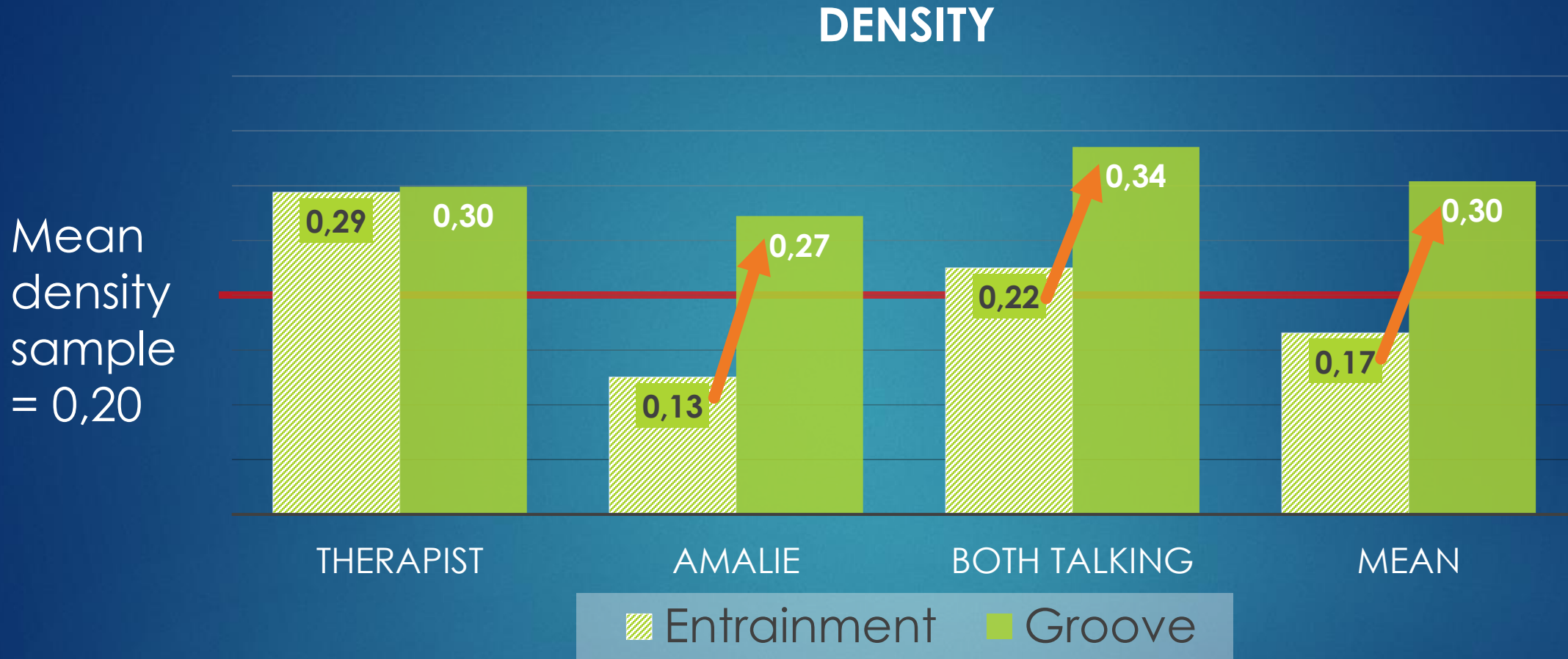
► Speechrate: **increasing**

- Highest when both talking
- Amalie's **constant**



Increasing rhythmic
alignment from 40% to 80%

Change Process from Entrainment to Groove



- Density: **increase** of assertion
- Plus ~2x for Amalie and highest both talking
- Therapist's **constant**

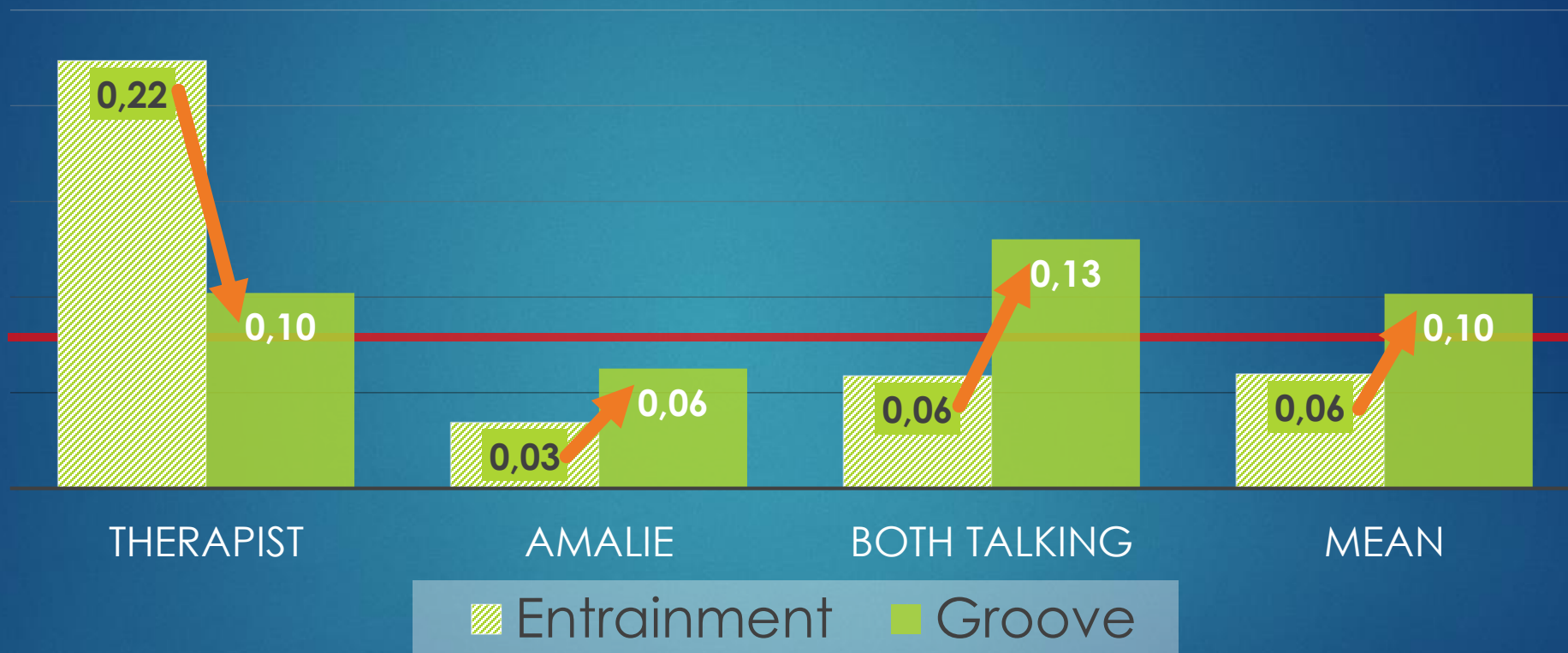


Increasing
rhythmic alignment
from 45% to 79%

Change Process from Entrainment to Groove

RELEVANCE

Mean
relevance
sample
= 0,08



► Relevance: **increase**

- Therapist's halved, while Amalie's and both talking is doubled



Increasing rhythmic alignment from 14% to 46%

Ian Cross (2006)

„Rhythmic synchrony is
fundamental to human sociality”

Agenda Transforming Utterance (ATU)

- ▶ Agenda transforming utterances (Stivers, 2007)
 - ▶ transformation of former *interpretation of the other's* agenda
 - ▶ *Powerful in therapeutic work*
 - ▶ 'Cumulative set' of agenda changes hold powerful insights
- ▶ Rooted learning principle "ratcheting up the ratchet" (Tomasello, 1993)
- ▶ Use ATU's 'leverage effect' to mutually access the other's mental scenario (Levinson)



Successful ATU: Use of Leverage Effect



Th: =was Sie (.) mitnehmen
möchten nicht wahr;

A: was ich vor allem noch
eindringen möchte=

Th: =naja! ei:n (..)

[bringen oder eindringen?

A: [((?? Ich will aber ??))
dringen dringen

Th: eindringen ja

Th: =what you (.) want to
take away with you;

A: especially what I want to
penetrate=

Th: =well! i:n (..)

[introduce or penetrate?

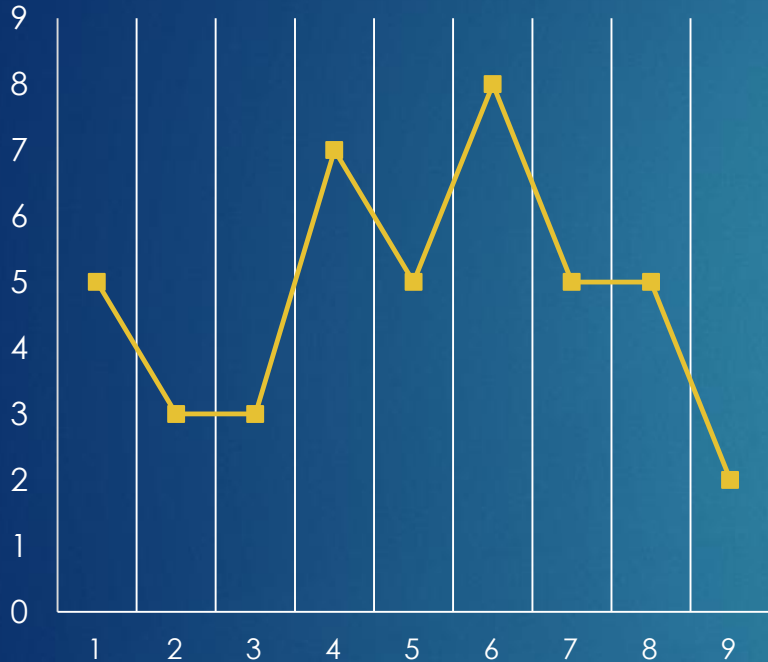
A: [((?? but I want ??))
penetrate penetrate

Th: penetrate yes

- Transformation 1: Other-initiated other-repair to self-initiated other-repair
- Transformation 2: Amalie's wording „penetrate“ is accepted by therapist
- successful ATU as successful use of leverage effect of cumulative co-transformations

Successful ATU: Overview of Rhythmic Process

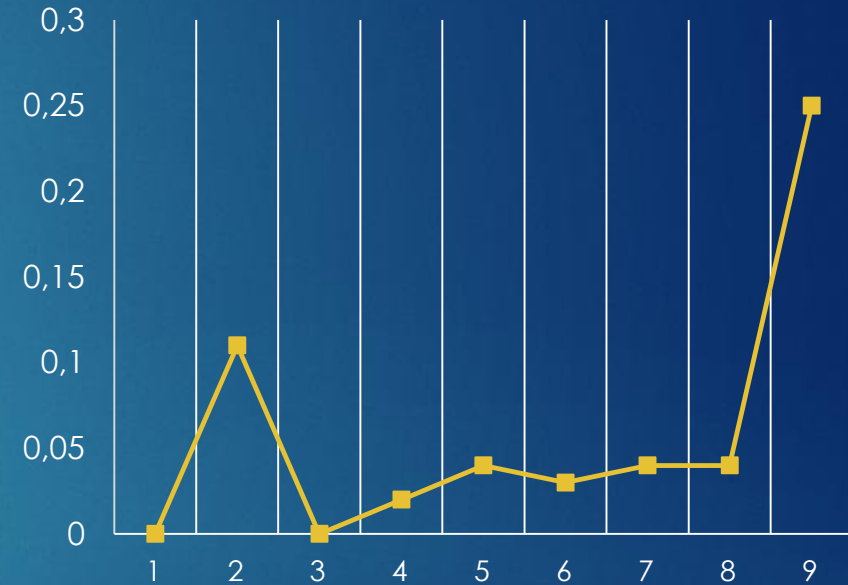
SPEECHRATE



DENSITY



RELEVANCE



► Transformation 1:
decrease of
speechrate (from 5→2)
as decrease of tension

► Transformation 2:
Increase of density
(from 0→0.5) as increase
of assertion

► Conversational
change goes along
with rhythmical
change

Failed ATU: No elaboration



A: Das stimmt (2) >müßt Ihnen
auch nicht< den Hals abreißen

Th: ja! aber Sie würden dann
auch nicht mit Ihren (.)

Dogmen (.) meine (.) >äh<
befruchten oder?

A: Nein!

(1)

A: thats right (2) >would not
have< to snap off your head

Th: yes! but then you also
would not fertilize with your
(.) dogmas mine (.) >err< or?

A: no!

(1)

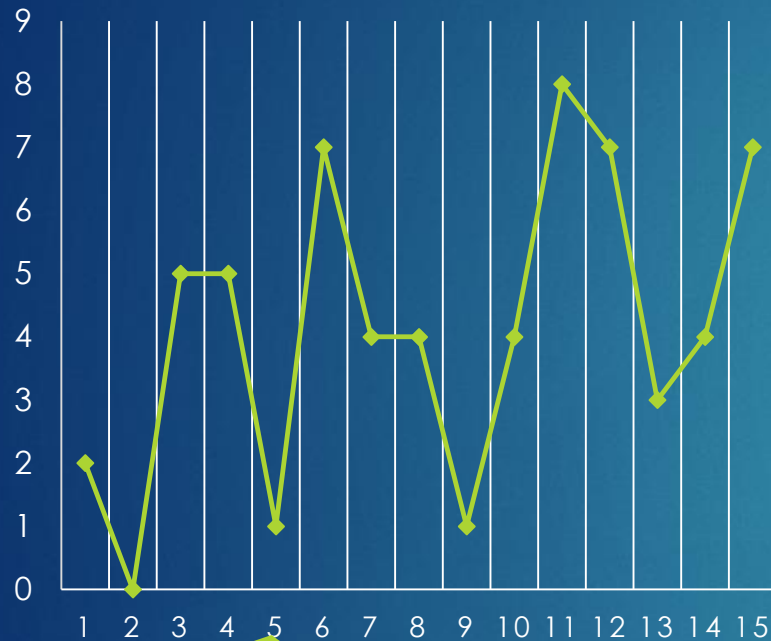
► Goffman's theory of face: "positive social value" (1967)

► Faces can be threatened (Brown and Levinson, 1987)

► Therapist's interpretation as a possible „face threatening confirmation" is not accepted by Amalie

Failed ATU: Overview of Rhythmic Process

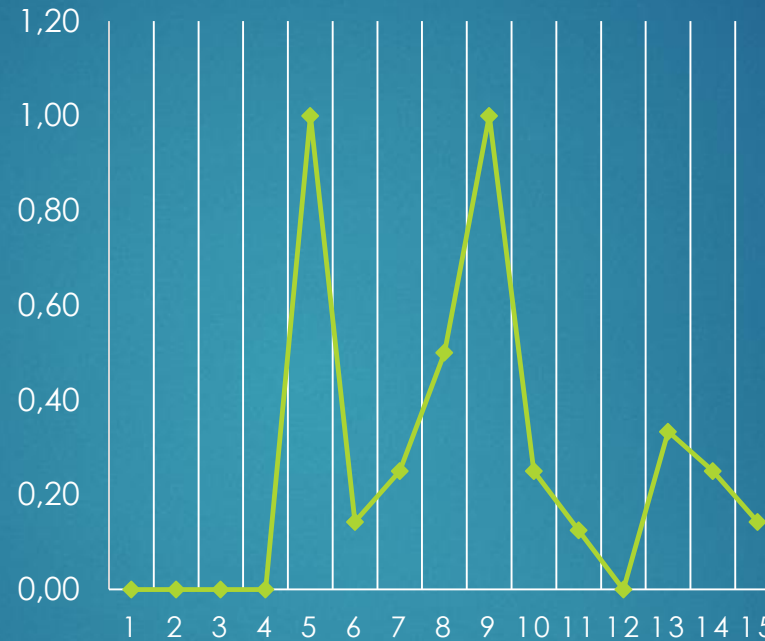
SPEECHRATE



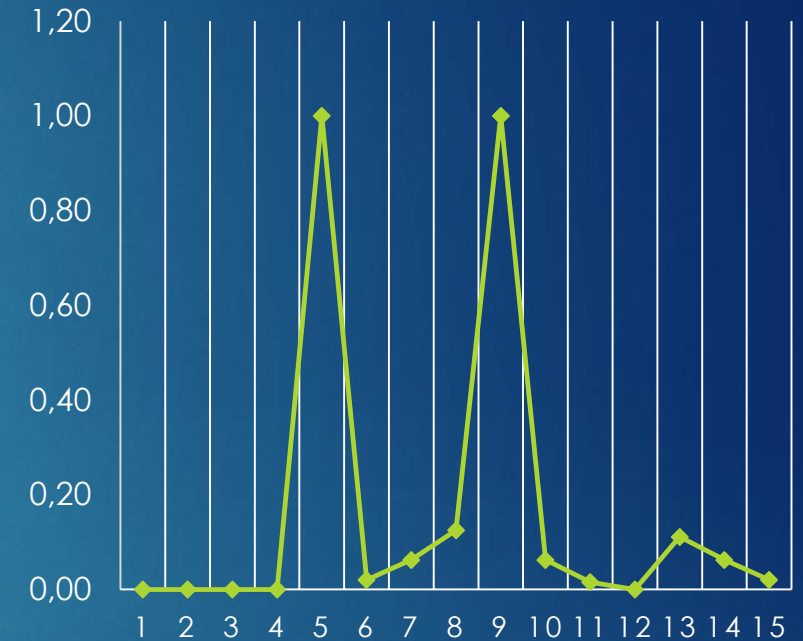
Th: yes!

A: no!

DENSITY



RELEVANCE



- Transformation 1: increase of speechrate (from 2→7) as increase of tension

- No transformation 2: no consistent change of density (from 0→0.2) as failed assertion

- Transformation of agenda goes along with tension and assertion assimilation

Typical Problematic Situations (TPS)

Mutual Monitoring includes:

- ▶ From sharing attention to we-intention
- ▶ Evaluation of each other's rhythmic gestalts

TPS are situative elements that lack some kind of such mutual monitoring leading to *antagonistic attentional foci*

Types of TPS as antagonistic attentionables:

- Low speechrate **Example 1**
- Low density
- Low relevance **Example 2**

TPS: „Antagonistic projects“



Th: >oder siebzehn Uhr
dreißig<?=

A: =mir egal

T: ä::hm=

A: =wanns ihnen passt.

T: <s::iebzehn uhr> (.)
>>siebzehn uhr dreißig
dann<<

A: m::h

Th: JA?

A: mm hm

Th: >or five oclock<?=

A: =I dont
care

Th: e:rm=

A: =at your pleasure

Th: <f::ive oclock< (.)
>>then five thirty<<

A: m::h

A: YES?

A: mm hm

TPS: „Antagonistic projects“

A: (°stöhnt°))

(6)

A: hhhhhhhh.

(59)

A: °hm°

(1:07)

A: .hhhhhh

A: ((°moans°))

(6)

A: hhhhhhhh.

(59)

A: °hm°

(1:07)

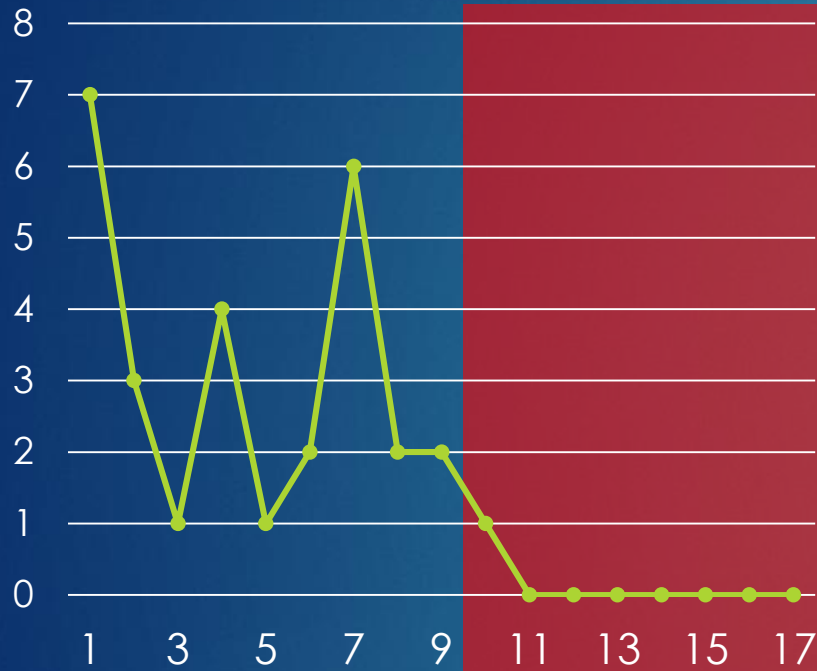
A: .hhhhhh

Interaction engine
breaks down:
Therapist and Amalie
have different
projects

No expression of
shared intentionality

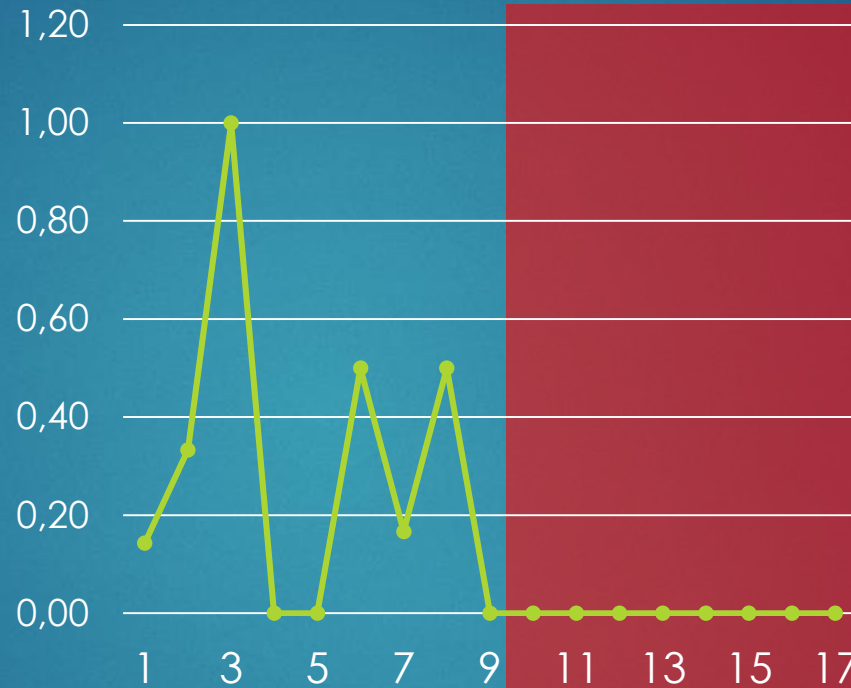
TPS „slow“: Overview of Rhythmic Process

SPEECHRATE



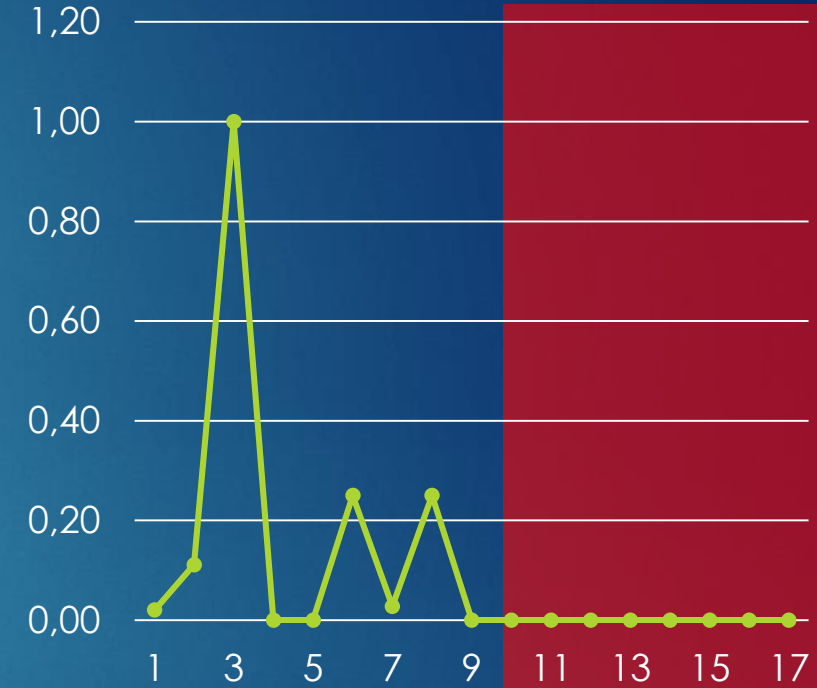
Therapist „sets“ date

DENSITY



Th: e:rm

RELEVANCE



- Speechrate breaks down after high peak of therapist setting the date

- Density with peak of therapist's prominent detention

- Relevance highlights therapist's irritation, time noting and request

TPS: „The nervous therapist“



A: °glauben Sie das selbst,
<dass> der Traum mir
weiterhilft?° °°is noch so
fremd jetzt doch noch°°

(2)

A: °do you yourself, believe
that <that> the dream helps
me?° °°but its still strange
now°°

(2)

- Amalie's disconcerting question is epistemically not answerable

TPS: „The nervous therapist“

Th: Ja:: es ist [ja eine=eine
A: [((?? °°ich will
hab Ihn:°° ??))
Th: äh ähm (-) m::h (1)
Reglosigkeit eine
(1)

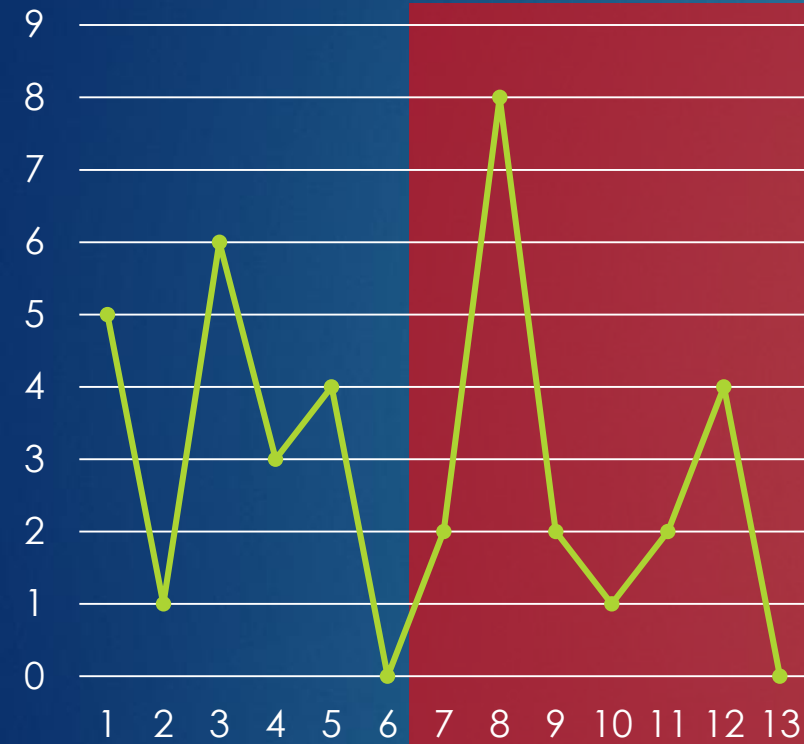
Th: ye::s it is [yes a=a
A: [((?? °°I want
have it°° ??))
Th: err erm (-) m::h (1)
inertia:
(1)

► Therapist's interactional display of puzzlement

► „Countertransference is when the analysts gets nervous“ (Gottman and Levenson, 1985)

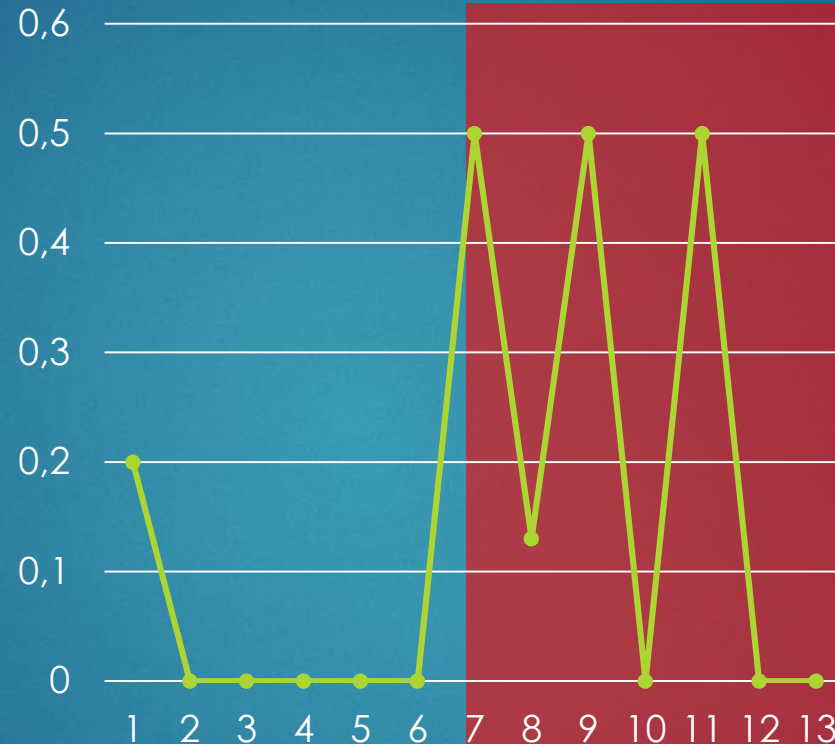
TPS „low relevance“: As Rhythmic Process

SPEECHRATE



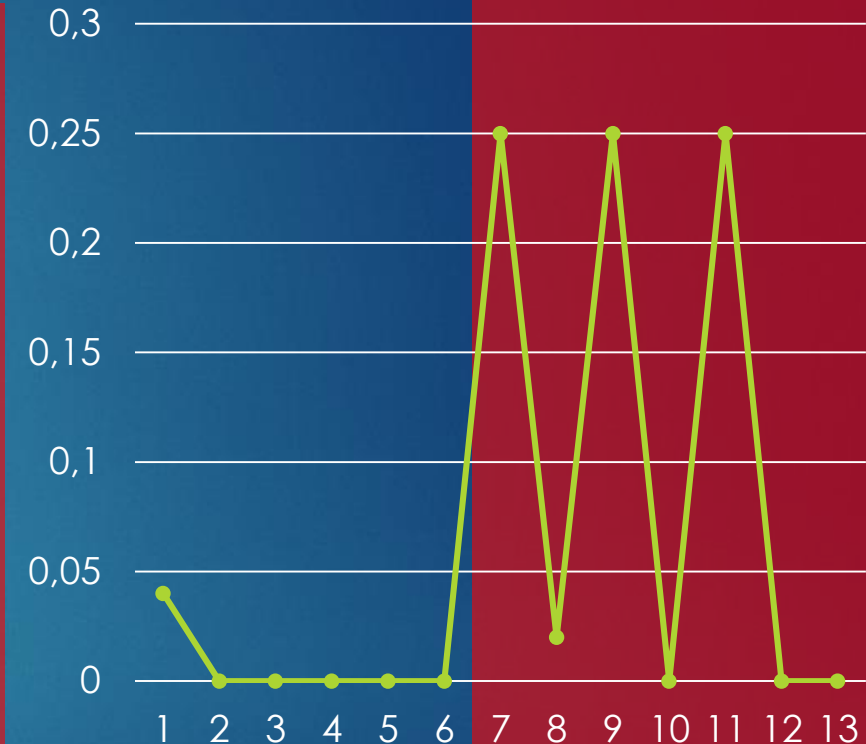
Overlapping talk

DENSITY



Therapist stutters

RELEVANCE



► Speechrate is inconsistent

► Density highly oscillates

► Relevance highly oscillates

Conclusion

- ▶ Rhythm is socially informative and has social consequences
- ▶ Conversation analysis contributes to detailed insights how “evenly hovering attention” (Freud) is done: rhythmically
- ▶ We build up expectations of informations surrounding us
- ▶ Rhythm Analysis shows how „attention settles“ (Thomä and Kächele) in communicative expressions
- ▶ Subjective tension is ‚hearable‘ as expressions (of attentionables) that are rhythmical (dis)aligned

Thank you very much for your
evenly hovering attention!

...and many thanks for helpful comments to
„The Gang“:

Marie-Luise Alder, Florian Dreyer, Franziska
Jahnert, Julian Tennstedt, Anikó Zeisler

CCU

ATU

TPS

Entrainment

Groove

Conditions

- ▶ Mutual monitoring
- ▶ Seesaw technique
- ▶ Contrasting rhythms

- ▶ Mutually adapt to and complement the other's intention
- ▶ Consistency
- ▶ Common Rhythm

- ▶ Actively perceiving the other's linguistic expressions as *different*
- ▶ Mutually adapting to and transforming of the other's linguistic behavior

- ▶ Interpersonal *inattention*
- ▶ Mutually unknown projects

Functions

- ▶ „My mind is with you“
- ▶ Low rhythmic alignment (33%)
- ▶ Mediating tension
- ▶ Entrainment of attentional space

- ▶ My rhythm is with you
- ▶ Increasing rhythmic alignment (68%)
- ▶ Groove through speaking out of one mouth

- ▶ Linguistic and rhythmic alignment
- ▶ Decreasing tension
- ▶ Leverage effect as social learning principle

- ▶ Stuttering or break down of interaction engine

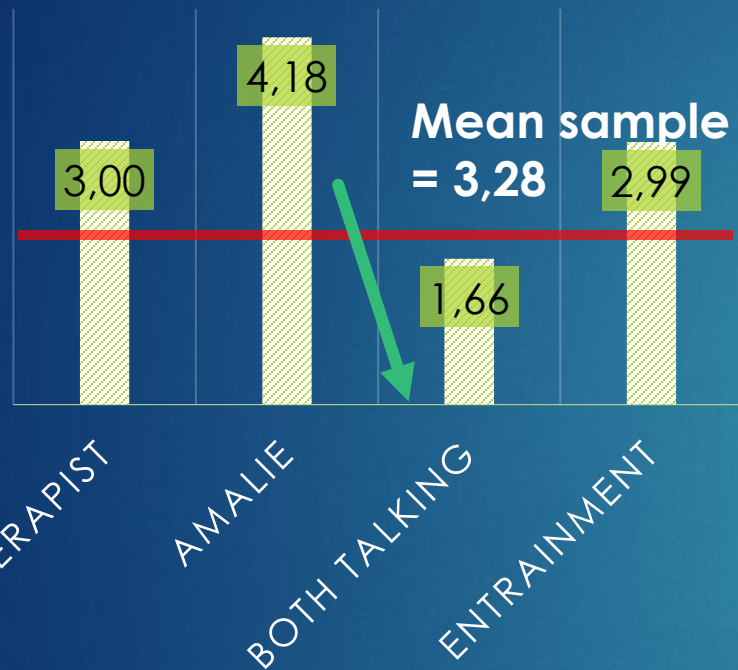
- ▶ Rhythmic trust in the other's next steps of utterances

- ▶ Perceiving oneself through the other

- ▶ Rhythmic vigilance

CCU Entrainment: Overview of Mean Values

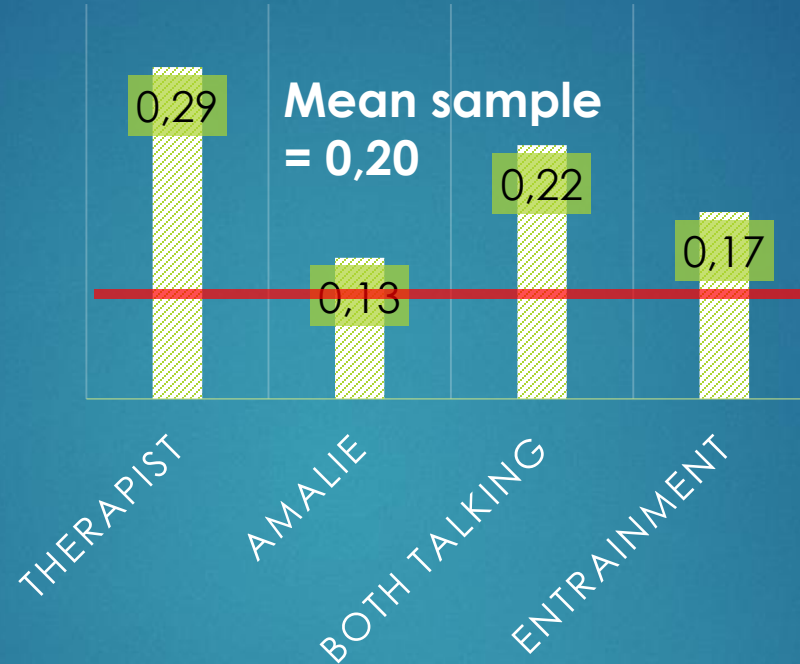
SPEECHRATE



Rhythmic alignment: 40%

Amalie's speechrate higher than therapist's
Calming down rhythmic tension when both overlap

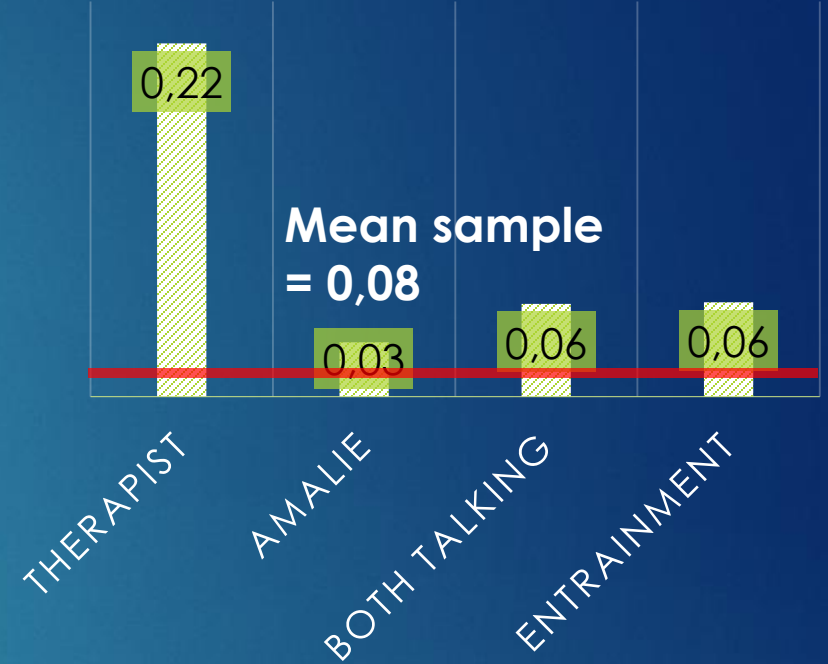
DENSITY



Rhythmic alignment: 45%

Therapist's density ~ 2x higher than Amalie's
Assertion level very different with ,mediation' when both overlap

RELEVANCE



Rhythmic alignment: 14%

Relevance highlights different shares of speakers to low relevance
Evenly hovering attention rhythmically visible

Change Process from Entrainment to Groove

Speechrate

Speaker	Entrainment	Groove
Therapist	3,00	3,39
Amalie	4,18	4,11
Both	1,66	4,25
Total	<u>2,99</u>	<u>3,80</u>

Density

Speaker	Entrainment	Groove
Therapist	0,29	0,30
Amalie	0,13	0,27
Both	0,22	0,34
Total	<u>0,17</u>	<u>0,30</u>

Relevance

Speaker	Entrainment	Groove
Therapist	0,22	0,10
Amalie	0,03	0,06
Both	0,06	0,13
Total	<u>0,06</u>	<u>0,10</u>

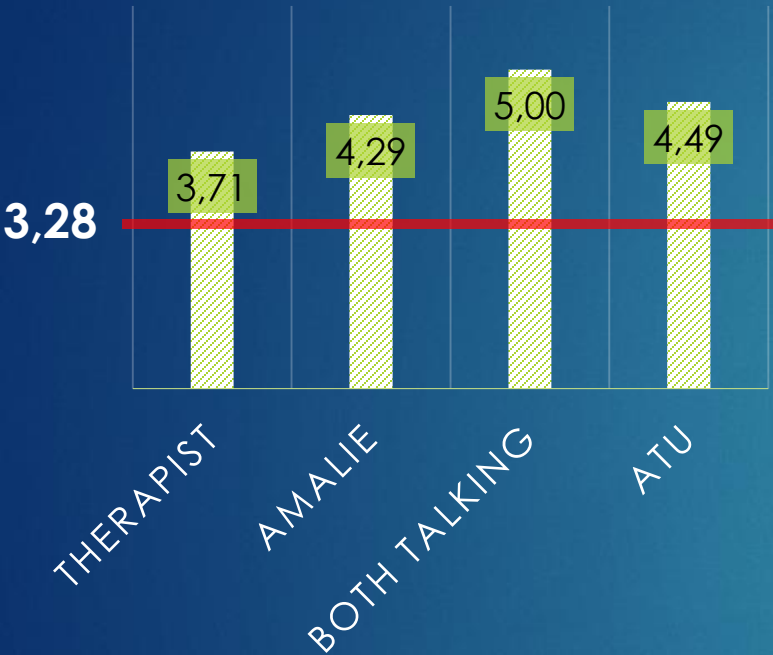
“Rhythmic synchrony is fundamental to human sociality” (Cross, 2006)

Mean rhythmic alignment increases from 33% to 68%

- Mean Speechrate: **increasing**
- Rhythmic alignment: doubles from 40% to 80%
- Mean Density: **increasing**
- Rhythmic alignment: increases from 45% to 79%
- Mean Relevance: **increasing**
- Rhythmic alignment: More than triples from 14% to 46%

Overview of all ATUs' Mean Values

SPEECHRATE



Rhythmic alignment: 74%

- Speechrate increases
 - Amalie faster than therapist, highest when both are talking
 - Tension level increasing (sample)

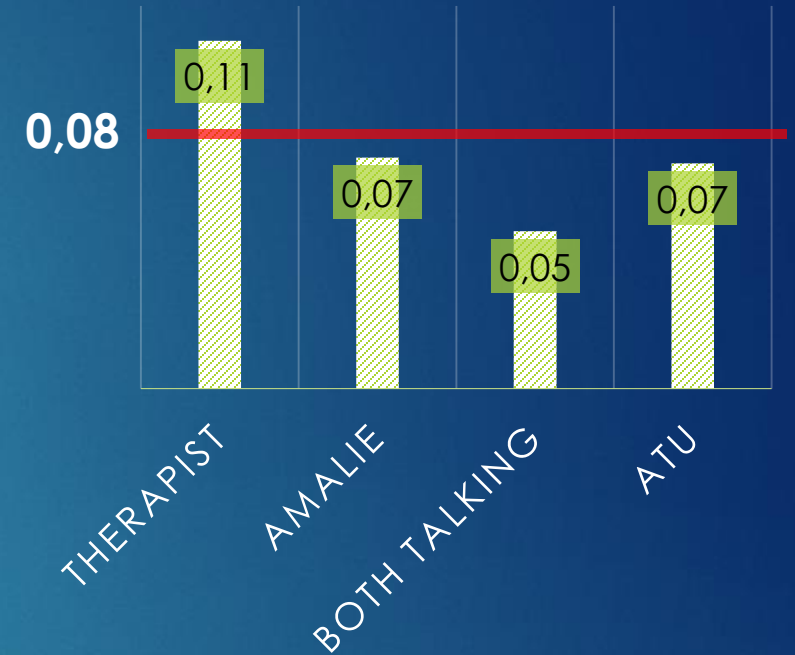
DENSITY



Rhythmic alignment: 68%
Mean alignment: 63%

- Density decreases
 - Therapist more dense than Amalie
 - Assertion level decreasing (sample)

RELEVANCE

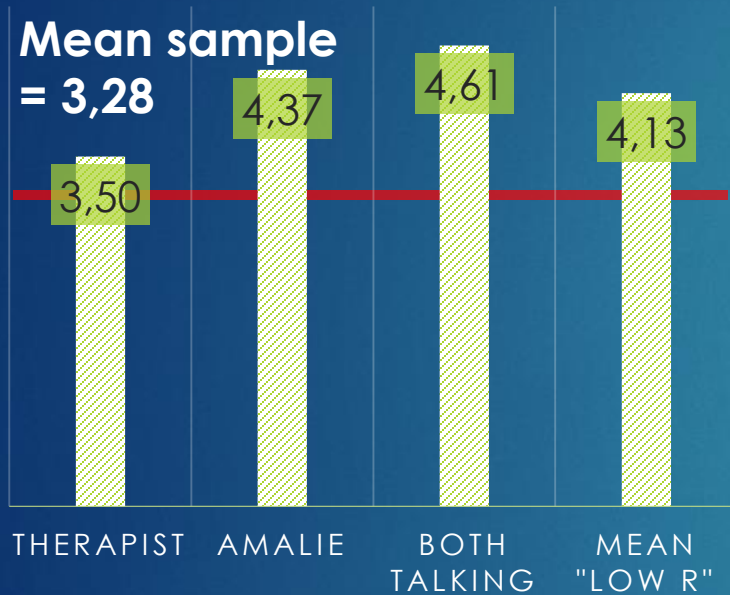


Rhythmic alignment: 46%

- Relevance decreases
 - Therapist's relevance ~ 36% higher than Amalie

Overview Mean Values of TPS Type „low Relevance“ and of Speakers

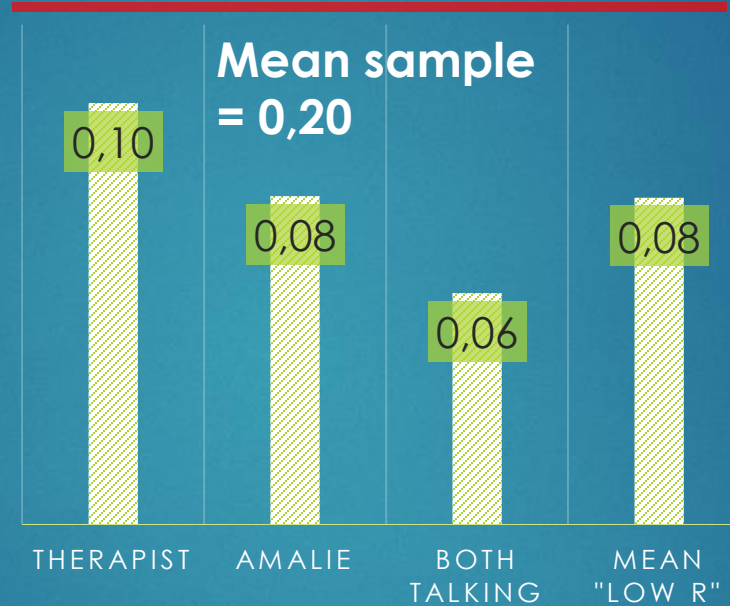
SPEECHRATE



Rhythmic Alignment: 76%

- Speechrate *increases*
- Amalie ~20% faster than therapist
- Highest when both talking

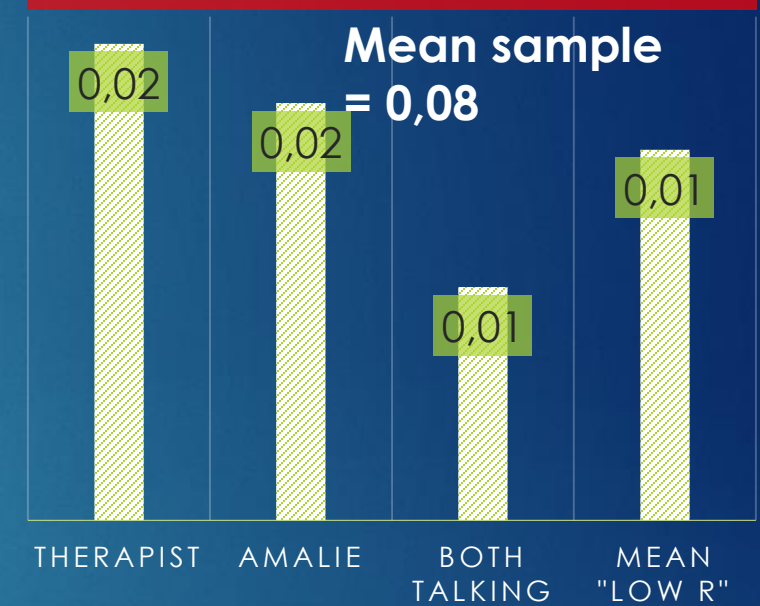
DENSITY



Rhythmic Alignment: 60%
Mean Rhythmic Alignment: 62%

- Density highly *decreases*
- Therapist ~20% more dense than Amalie
- Lowest when both talking

RELEVANCE

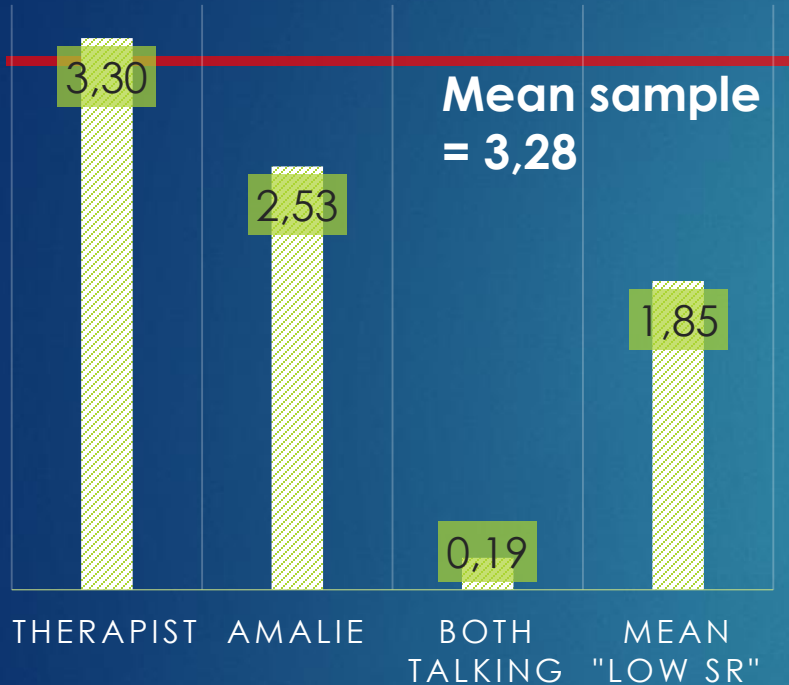


Rhythmic Alignment: 50%

- Relevance highly *decreases*
- Participants ~same relevance
- Lowest when both talking

Overview Mean Values of TPS Type „slow“ and of Speakers

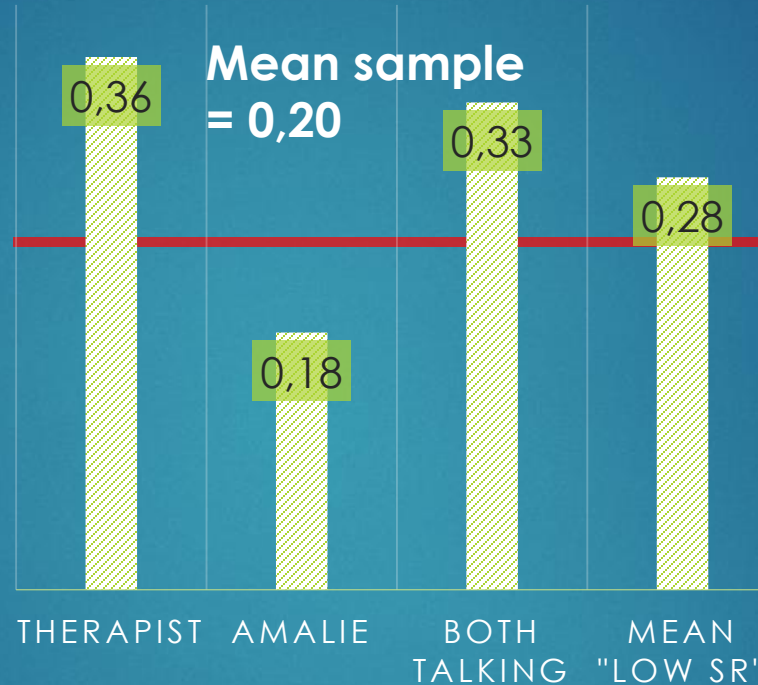
SPEECHRATE



Rhythmic Alignment: <1%

- Speechrate decreases
- Absolute lowest for both talking
- Amalie slower

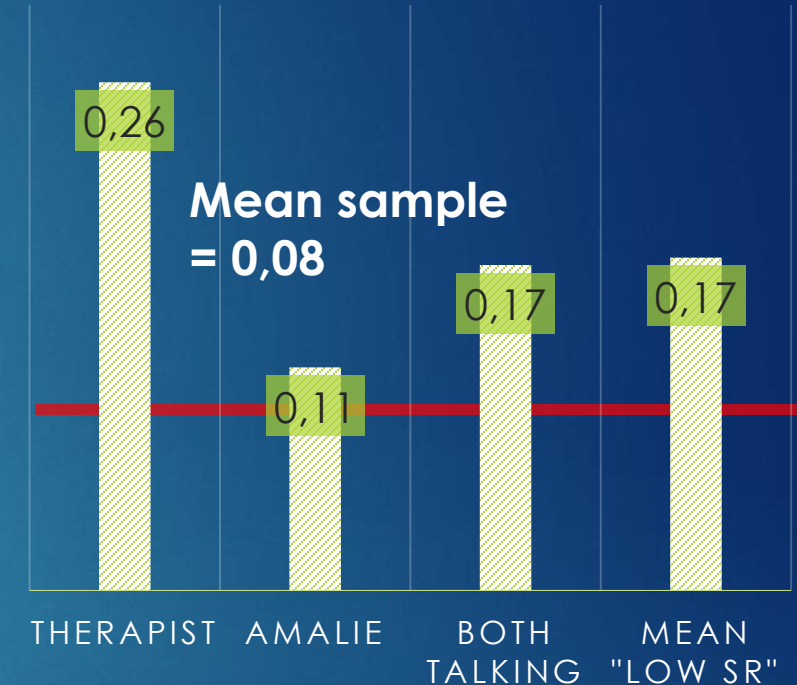
DENSITY



Rhythmic Alignment: 50%~31%

- Density increases
- ~ 30% higher than sample
- Therapist ~2x dense than Amalie

RELEVANCE



Rhythmic Alignment: 42%

- Relevance increases
- ~ 59% higher than sample
- Therapist ~2x higher than Amalie