

How does hypnosis heal?

in psychotherapy in the ego-free state

Neurobiological bases and efficacy

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Efficacy (effect sizes)

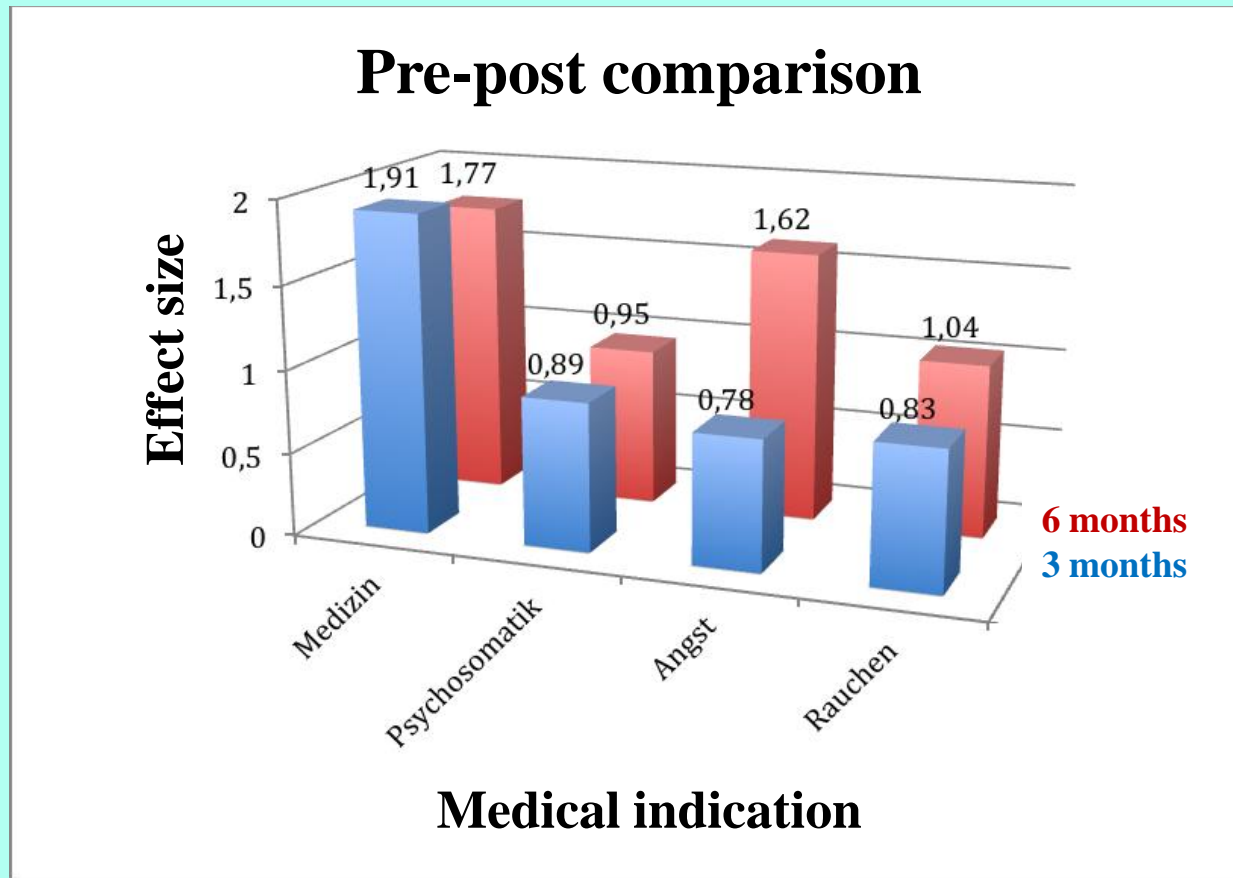
Randomised control trials (RCTs) until 2009

(from Flammer 2011)

Indication	# of Studies	Patients	Effect size	
			pre-post	RCT
Anxiety	15	577	0.89	0.81
Depression	5	138	1.49	0.76
Psychosomatic	65	2366	0.84	0.77
Smoking /Eating disorder	8	427	1.44	1.03
Medical	100	4726	1.07	0.73
Total	193	8234		

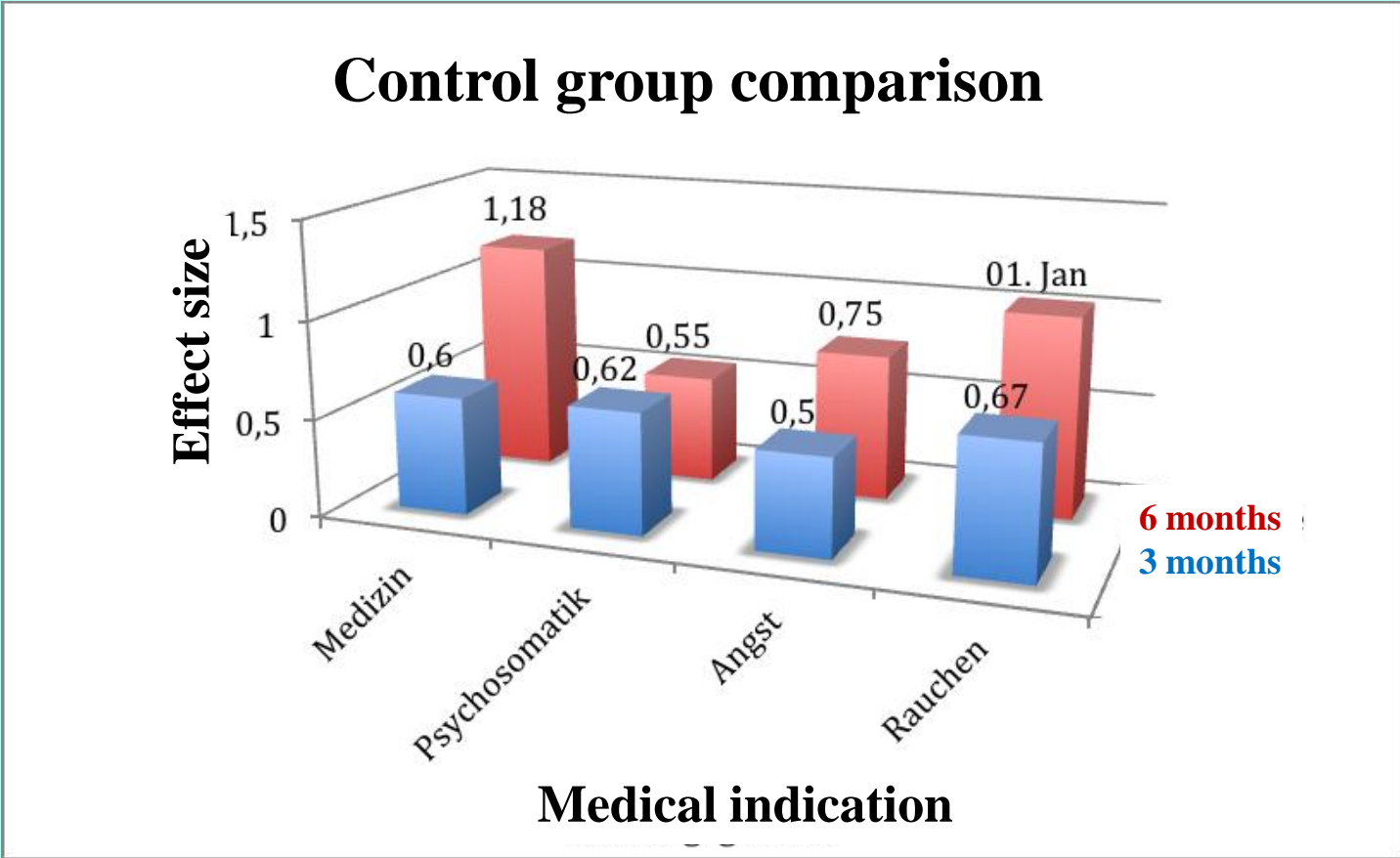
Effect sizes for four medical indications

3-months (blue)/ 6-months (red)



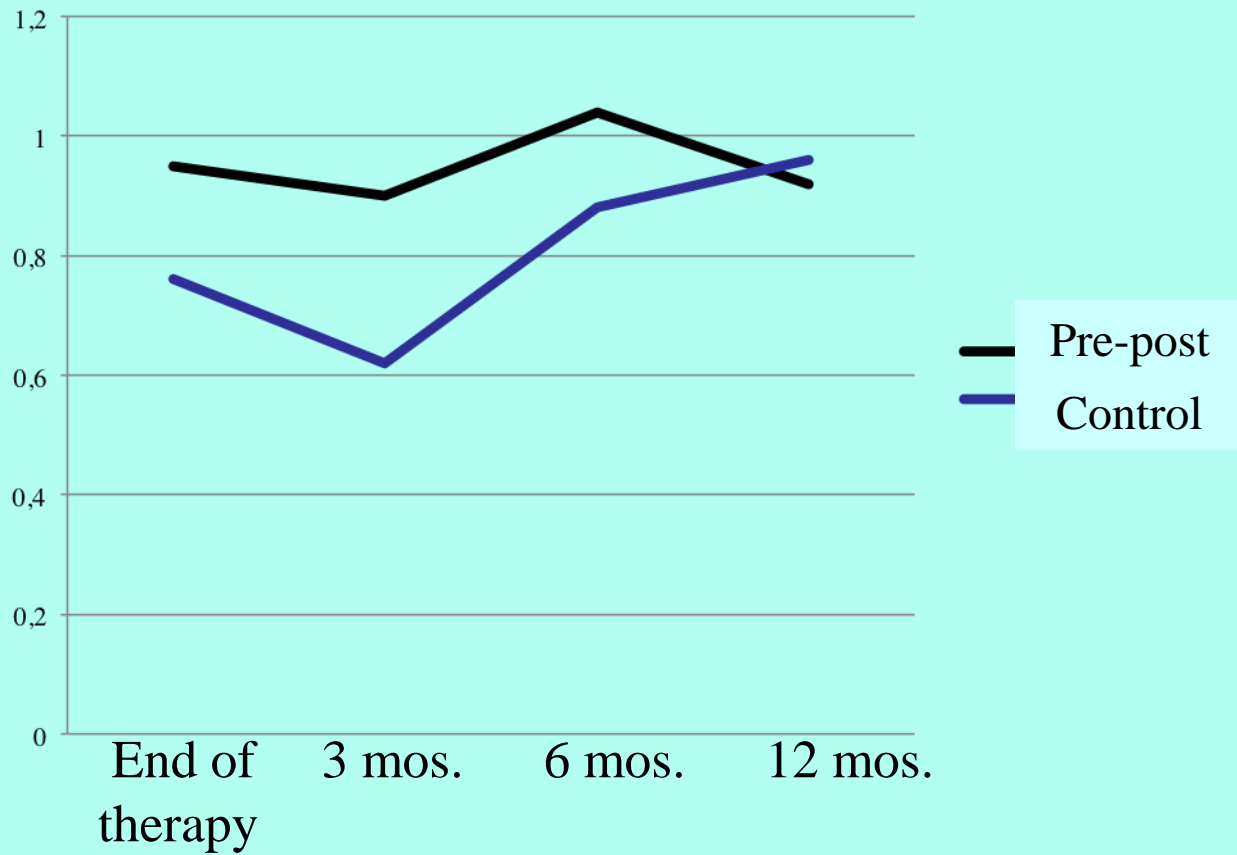
Effect sizes for four medical indications

3-months (blue)/ 6-months (red)



Effect sizes and catamnesis for hypnotherapy

Pre-post (black) / control group (blue) comparison



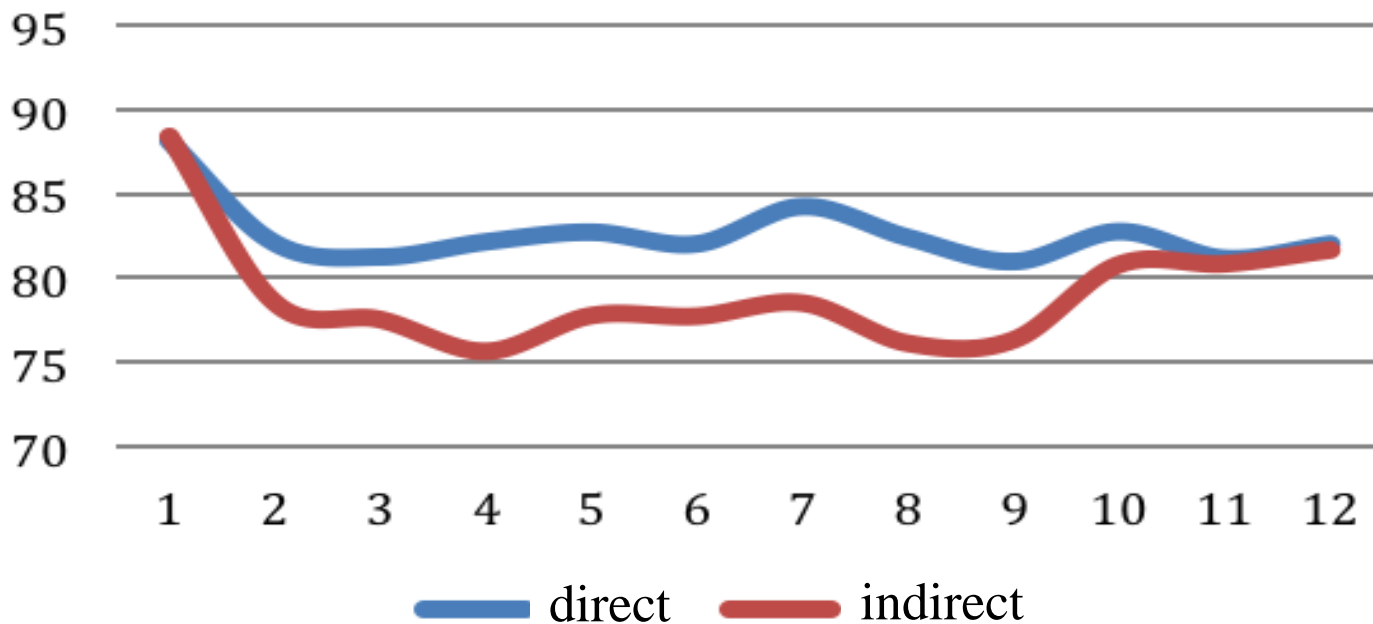
Hypnosis
as altered behavior

Direct (blue) und indirect (red) induction

Alertness (Cerebral state monitor)

95 = Resting; 85 = Relaxation

40 – 60 = OP



Hypnose

Example 2: *Posthypnotic suggestion* (Raz et al 2002)

Green

Stroop Interference

„What color is the word?“

→ „Green“ (incorrect)

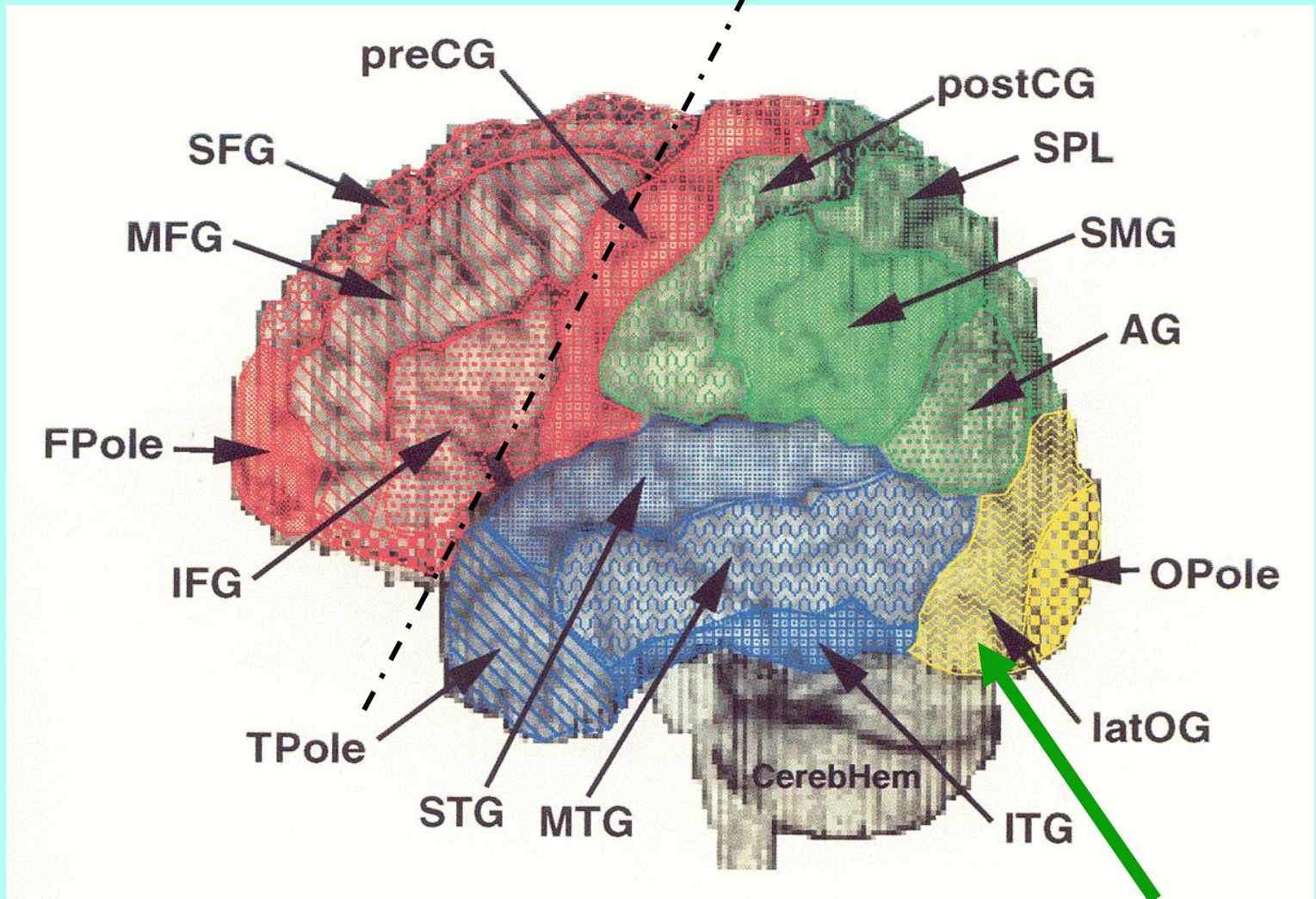
Following the hypnotic suggestion:

“Senseless syllable“

→ „Blue“ (correct)



Prefrontal cortex

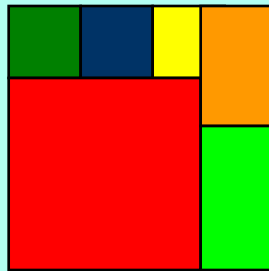


Fusiform region

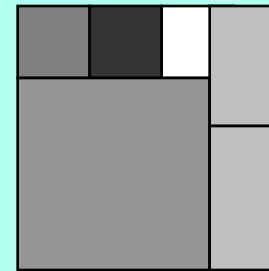
Hypnosis

Example 3: *Under hypnotic suggestion* (Kosslyn et al. 2000)

Fusiform region (Color-processing)



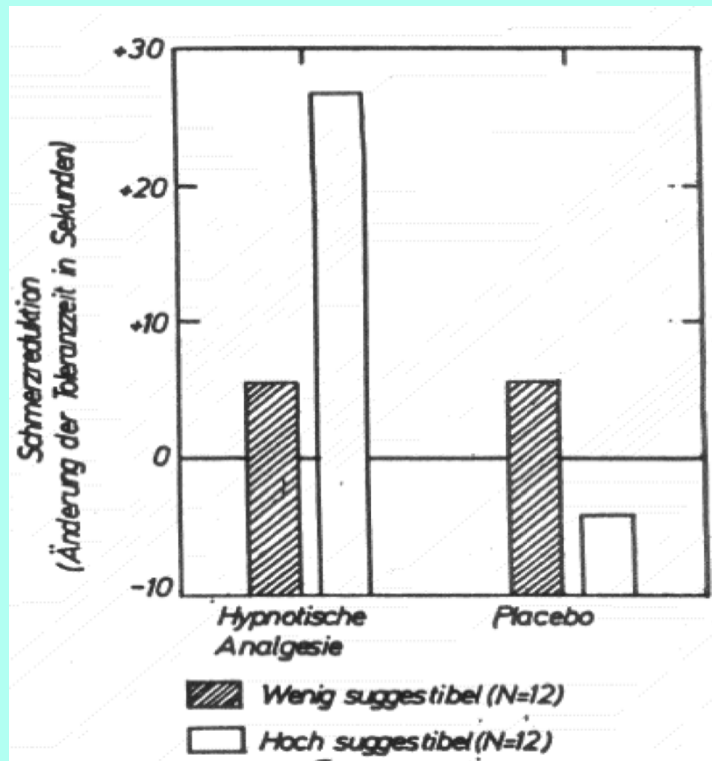
inactive with the
suggestion „gray“



active with the
suggestion „colored“

Hypnosis

Example 1: *Dissociation* (Hilgard 1974)



Pain reduction
by placebo and
hypnotic analgesia
in highly and lowly
suggestible participants

Hypnosis

Example 4: *Altered memory storage* (Halsband 2004)

Word-Associations

Under hypnosis:

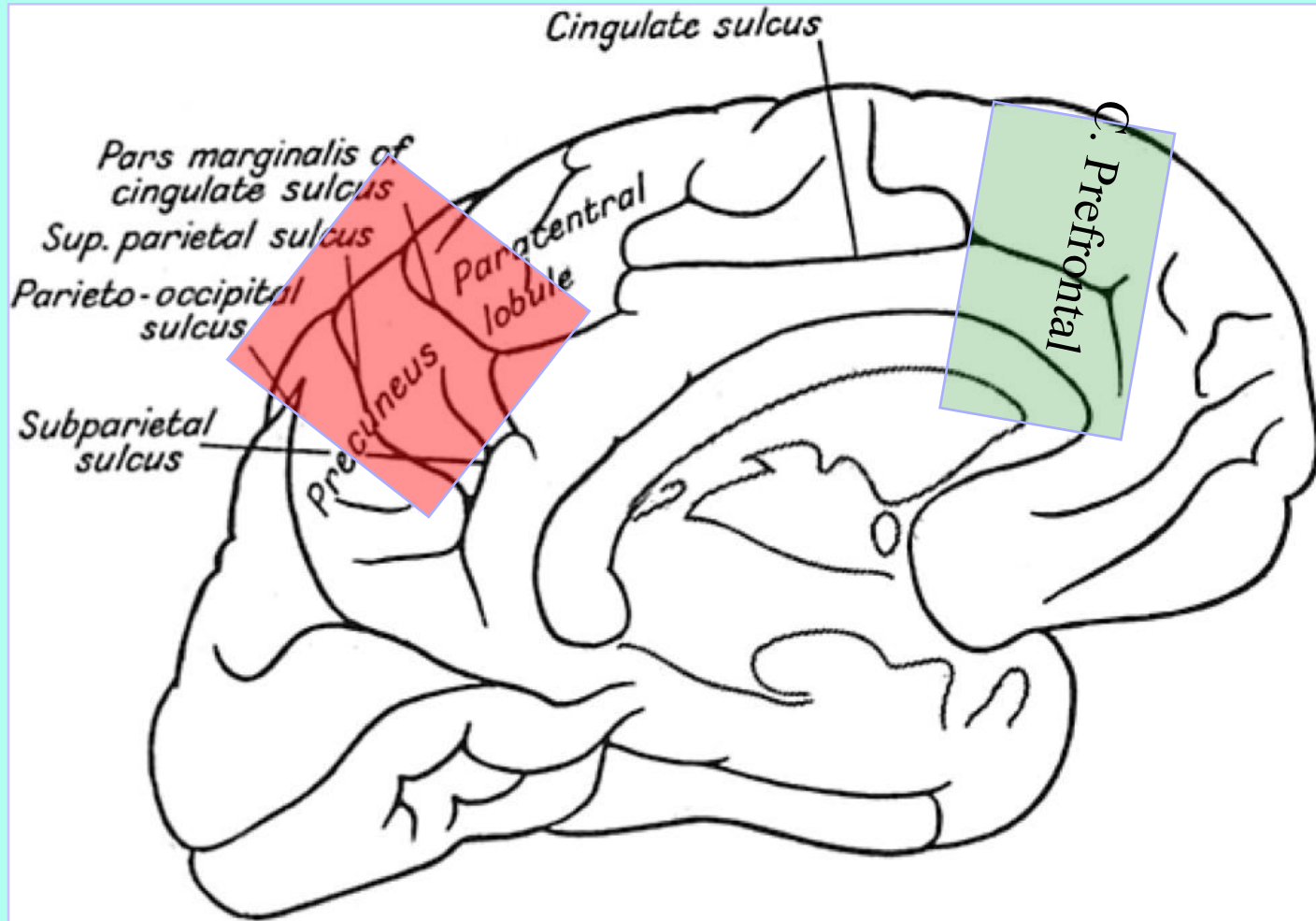
- Bird-Cloud +++
- Moral-Buses ----

In the awake state:

- Bird-Cloud ---
- Moral-Buses +++

Hypnosis
as altered brain processing

Default mode network (DMN)



Default mode network (DMN)

highly correlated network with:

medial PFC, dorsolateral PFC, precuneus inter alia (Pyka, 2011)

active during: rest

inactive during:

Hypnosis

REM- and deep sleep

Search and problem-solving processes

Coma (Menon, 2011)



Hypnosis and DMN

DMN active:
at rest

- Wandering thoughts
- Self-reference
- Connected with emotional and semantic memory

DMN inactive:
during hypnotic trance

- Focused on therapist
- Disassociation from everyday self
- Disconnected from emotional and semantic memory



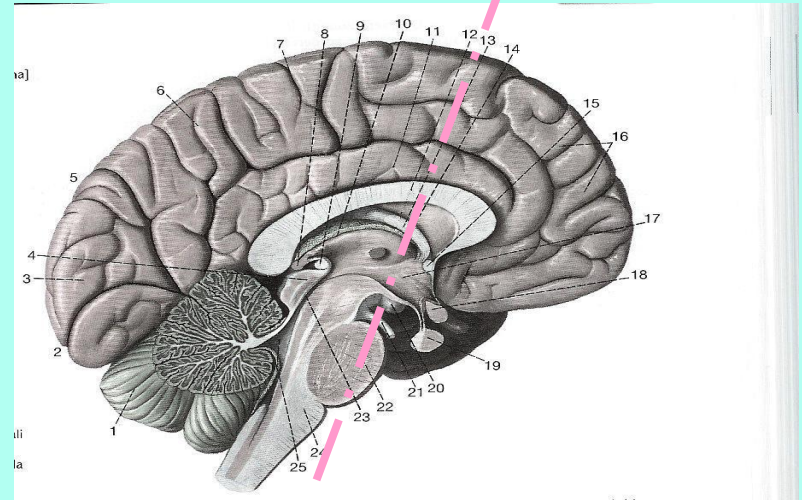
Prefrontal cortex (PFC)

(medial PFC, Part of the DMN)

Complex emotional behavior

ex.:

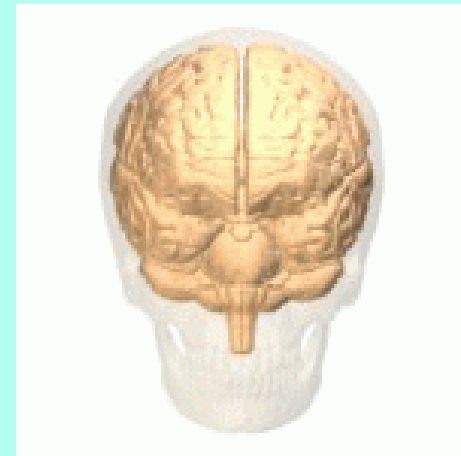
- Decision-making
- Mentalisation of behavior
- Self-referential processes, etc.



Precuneus PCu

(Part of the DMN)

- Episodic memory
- Self-referential processes
- Self-awareness



Self-awareness

(according to Metzinger)

Everyday consciousness

- embodiment:
- nowness:
- sense of agency:

Hypnosis

„not my hand“
no sense of time
involuntariness
„it happens“

M.H. Erickson's conception of hypnosis

A period in which the boundaries of the usual frame of reference and belief system are temporarily altered so that one is receptive to other patterns of association and modalities of mental functioning that lead to solutions.

Rubicon Model (Theory of action)

Desirability

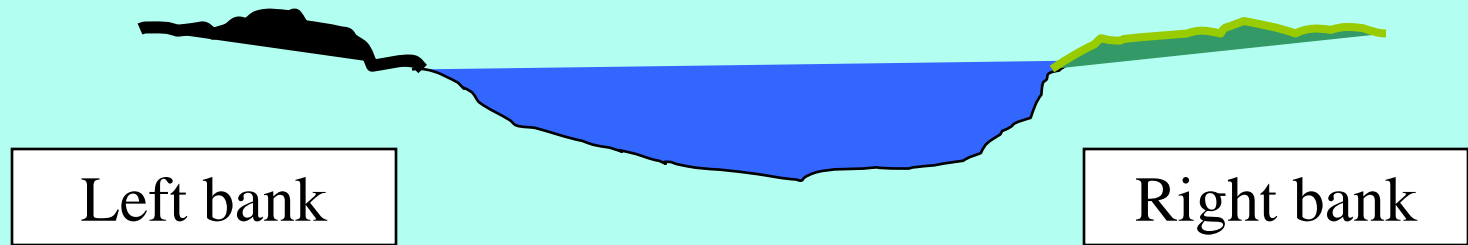
Feasibility

Decision

Activation

Action

Motivation → Intention → Realisation → Assessment



Hypnotherapeutic principles

Destabilization

Inner search processes

Resource-activation

Altered self-reference

Case # 1:
Overweight female (130 kg) eating several bars
of chocolate/day:

Posthypnotic Suggestion:
„You will eat one piece/hour (1bar/day)“

Result not stable: switched to cookies

Case # 2:
Male (85 kg) eating one bar
of chocolate every night:

Posthypnotic Suggestion:

*„You will eat on piece and then chocolate
will be totally insignificant“*

Result lasting: continued for 2 weeks
1 piece/night and stopped (lost 4 kg/1month)

Case # 3:
Female insomnia, because
husband snoring

Posthypnotic Suggestion:

*„As soon as You shut the light you think:
unshakable as a mountain “*

Result lasting: husband complained
that she was snoring

Case # 4:
Female orange allergy.

Posthypnotic Suggestion:

*„Recall colour green, remember
Kreta (pre-allergic state) eating oranges
and say: the war is over“*

Result lasting : Drank a liter of orange juice and enjoyed
oranges from there on

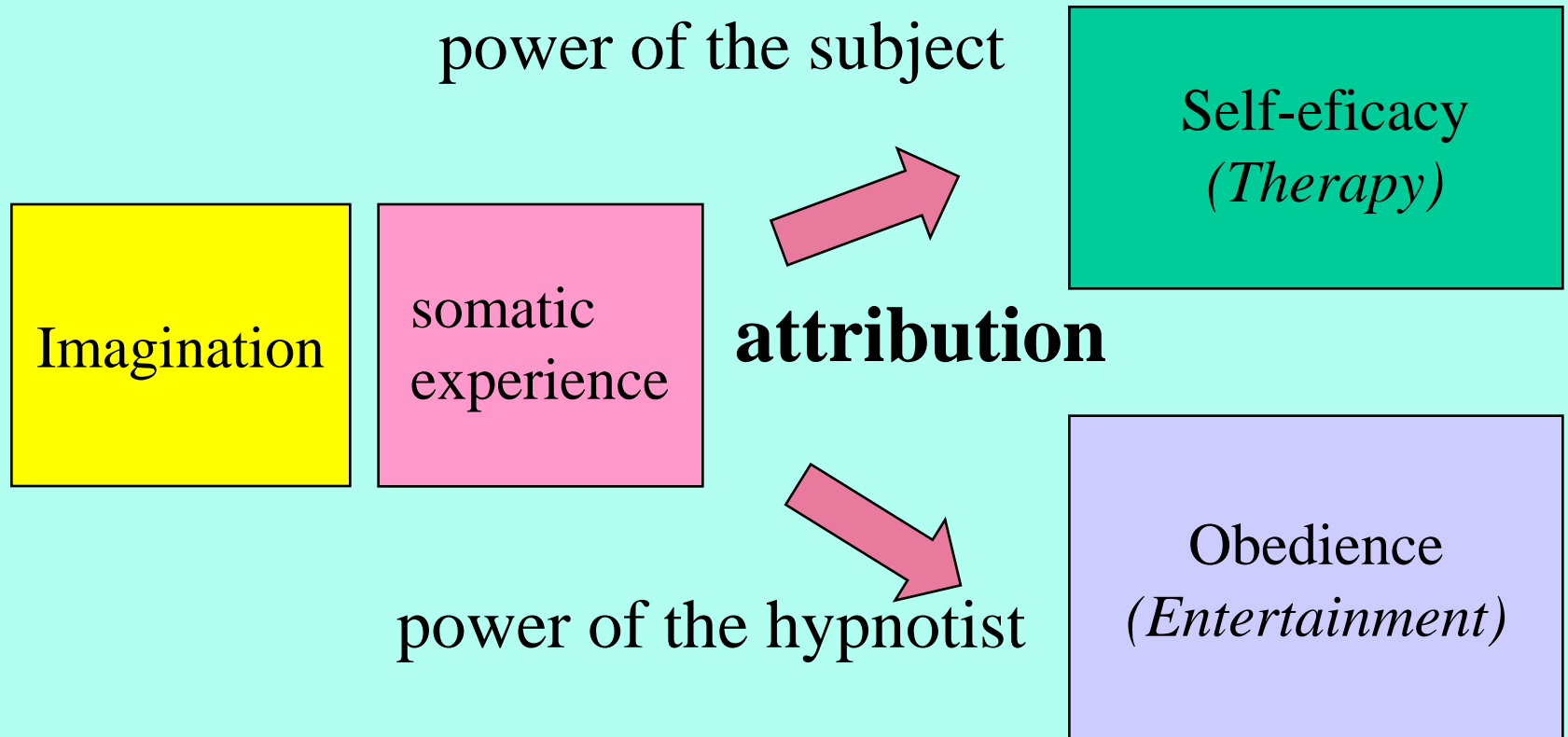
Case # 5:
Male test anxiety.

Posthypnotic Suggestion:

*„Unwaveringly keep on & go to your seat,
use selfhypnosis &
feel the pride of the 8 year old“*

Result: no procrastination or anxiety
grades 2,5 instead of 4

show-hypnosis / clinical hypnosis



Plasticity in rance

