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1921 - 2003

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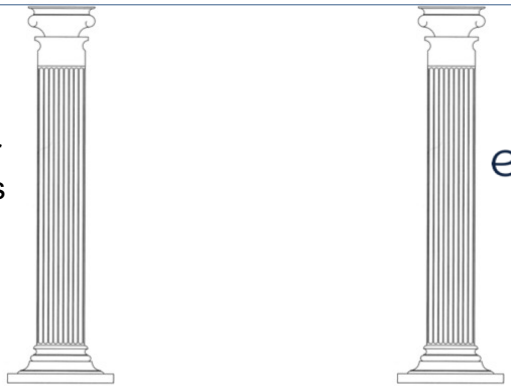
ifgl. fundats



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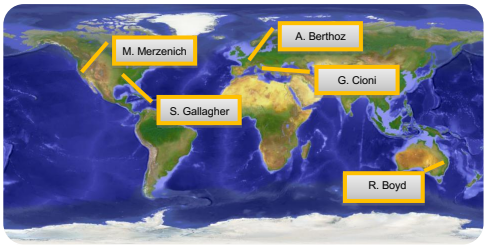
2

VIDEN

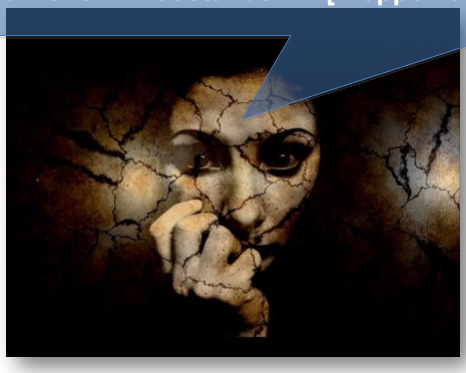
Københavns Universitet, Panum

Resten af verden



Basale problemer

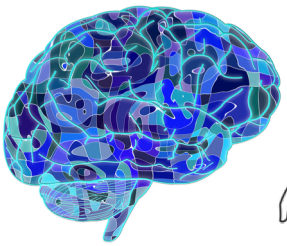
- Agency kompromitteret
- Empowerment nedsat
- Oplever mitch-match mellem intention og handling
- Kroppen bliver en "modstander" – [kroppen er IKKE mig]

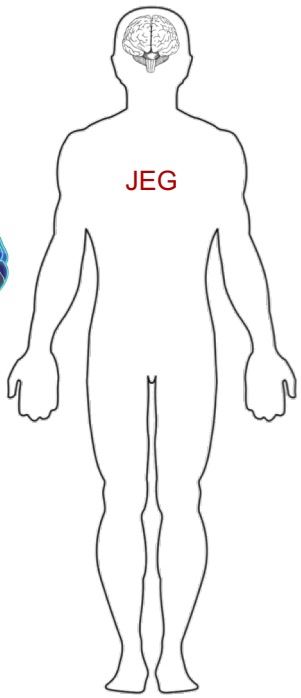


HJERNEN

OMVERDEN

JEG





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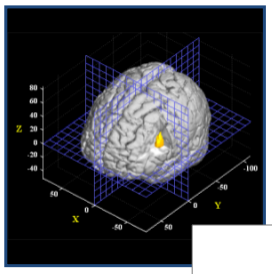
DEN DYNAMISKE HJERNE

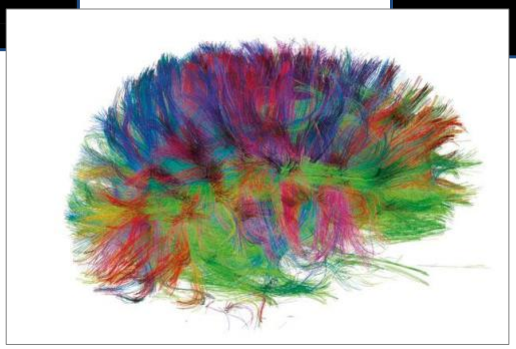


Tom Barrick, Chris Clark,
St. George's Hospital Medical School, London

DIFFUSION

TENSOR

MRI



Patric Hagmann & Van Wedeen,
Harvard University

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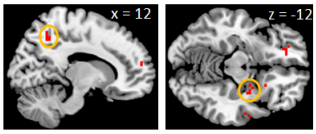
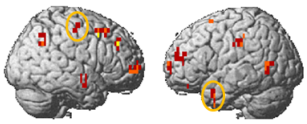
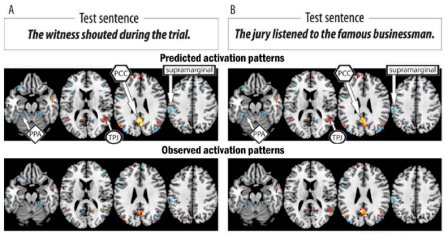
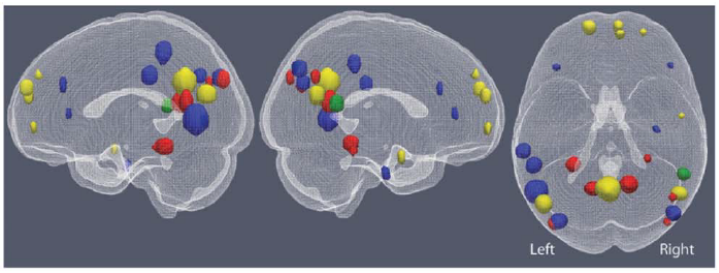






AI and sentences



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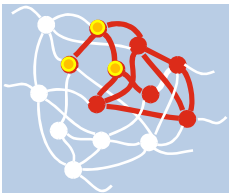
7

Plasticitet = Foranderlig

Hjernen er dynamisk og arbejder i komplekse systemer – kredsløb (circuitative).

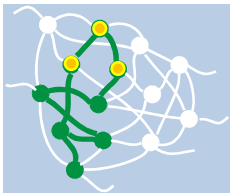
Det betyder, at kontrol over og styring af adfærd, som eksempelvis kognition og motorik – tanker og bevægelser deler fælles underliggende systemer.



Anthony Randal McIntosh:

"Regions may be "critical" for a particular operation, but the operation itself arises from combined actions of many regions"

Department of Psychology
University of Toronto



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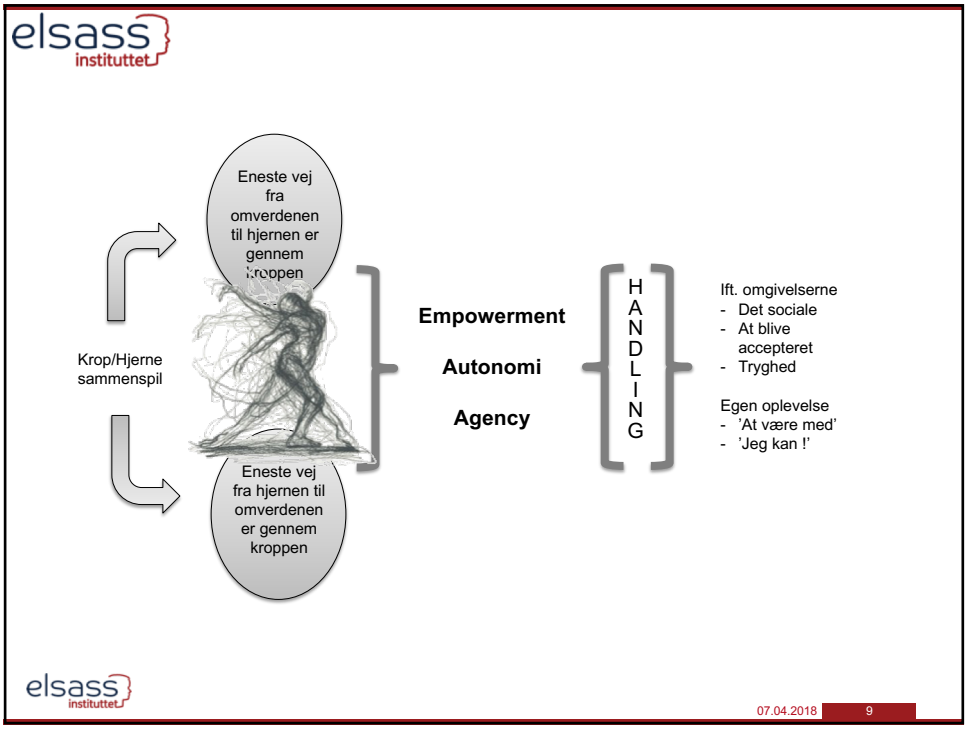
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Eneste vej fra omverdenen til hjernen er gennem kroppen
Krop/Hjerne sammenspil
Eneste vej fra hjernen til omverdenen er gennem kroppen
Empowerment
Autonomi
Agency
HANDLING
Ift. omgivelserne
- Det sociale
- At blive accepteret
- Tryghed
Egen oplevelse
- 'At være med'
- 'Jeg kan !'
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9

KROPSFORANKRET KOGNITION
COGNITIVE EMBODIMENT
Læring kræver at hjernen helt bogstaveligt ændre sig. Parallelt til dette kræver en ændring i eksempelvis øget selvtillid eller lavere stressniveau – at der sker en læring, altså at der etableres en ny-lært selvopfattelse.
Hjernen er så at sige kilden til adfærd, men i samme åndedrag må det sandes, at hjernen også ændres af den adfærd, hvortil den selv er kilden
Det er dette dynamiske samspil, der kaldes
kropsforankret kognition
cognitive embodiment
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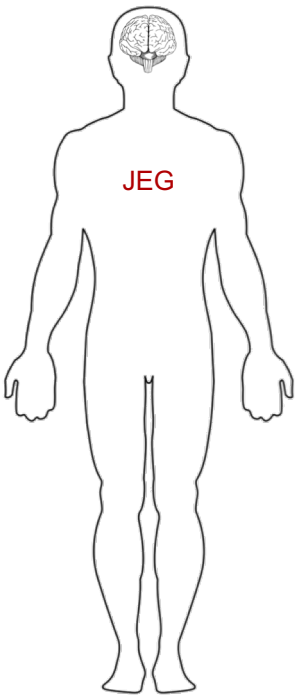
10

KROPPEN

OMVERDEN



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Kognition og Motorik
- forankret i det foranderlige menneske

"We have a brain for one reason and one reason only and that's to produce adaptable and complex movement. There is no other reason to have a brain."
Daniel Wolpert, neuroscientist USA

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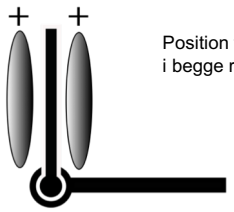
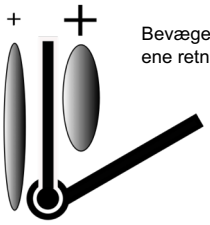
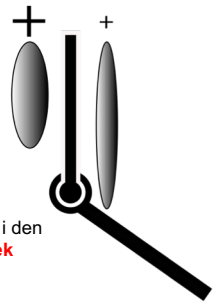


Position fastholdes – samme kraft
i begge retninger

Principper
for
musklers funktion
ved bevægelige led



Bevægelse opad – mere kraft i den
ene retning – **balance træk/slæk**



Muskler kan:
trække
ikke skubbe

Bevægelse nedad – mere kraft i den
ene retning – **balance træk/slæk**

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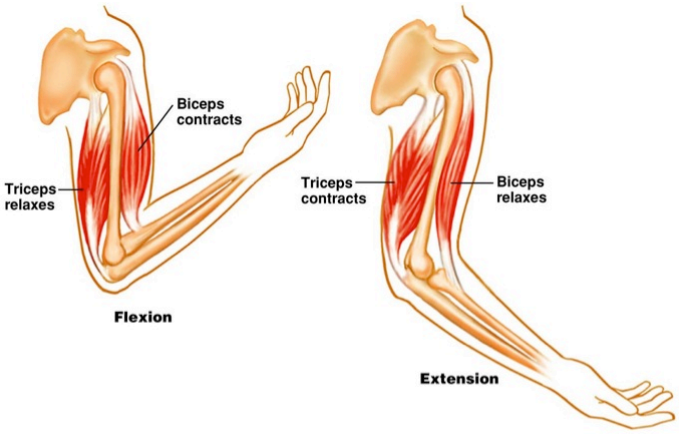
Skeletmuskulatur er et meget adaptivt (plastisk) væv, der kan tilpasse sig og ændre egenskaber baseret på brug, krav og aktivitet. Skeletmuskulatur reagere og ændres på basis af geners udtryk i cellekernen.



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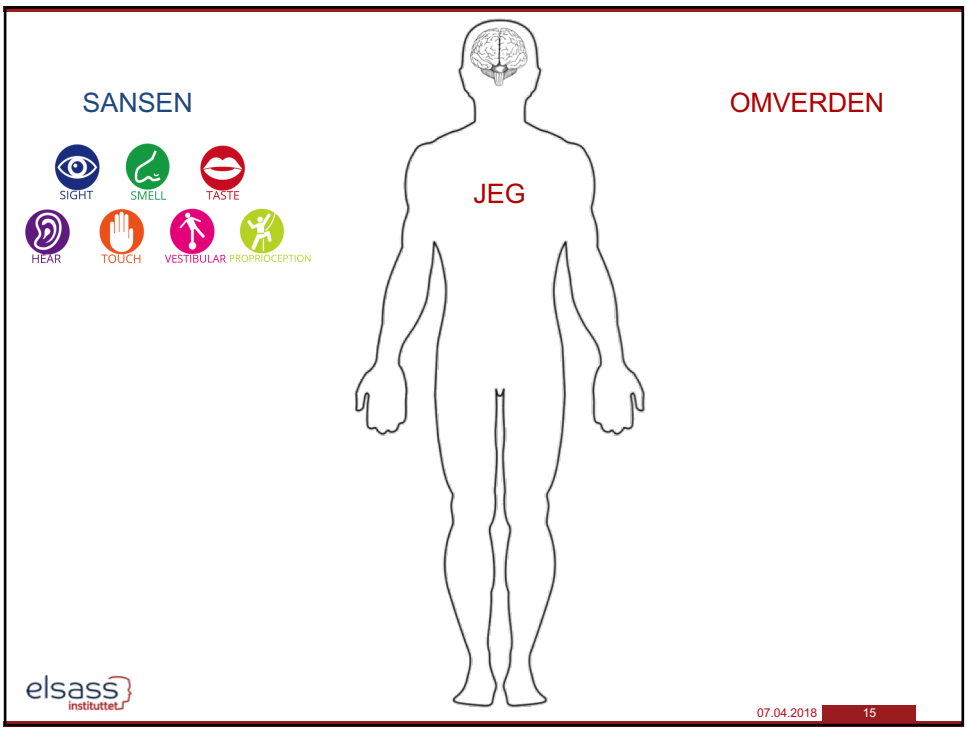
SANSEN
SIGHT
SMELL
TASTE
HEAR
TOUCH
VESTIBULAR
PROPRIOCEPTION
JEG
OMVERDEN
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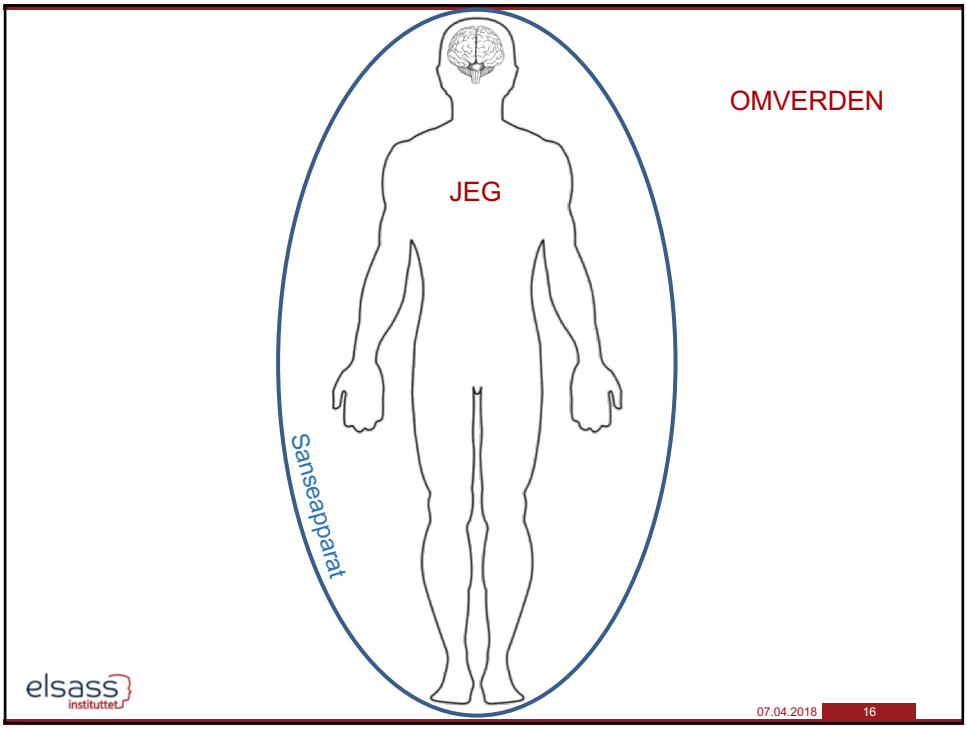
15


JEG
OMVERDEN
Sanseapparat
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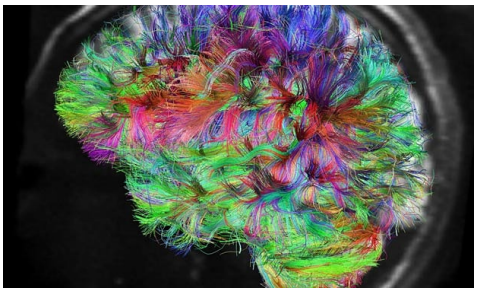
16

Sensory Sampling

De seneste år har vist et stigende antal af holdbare beviser for,
at hjernen, i stedet for at være en passiv modtager
af informationer fra den ydre verden (og kroppen),
aktivt forudsiger sanseindtryk.

Karl Friston, UCLA and Welcome Trust



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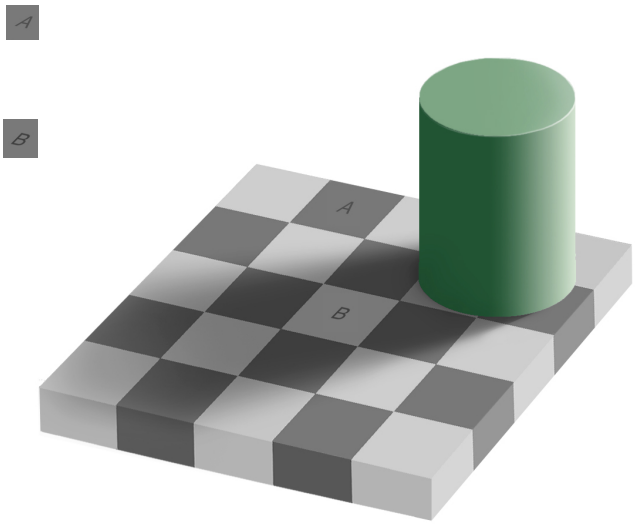

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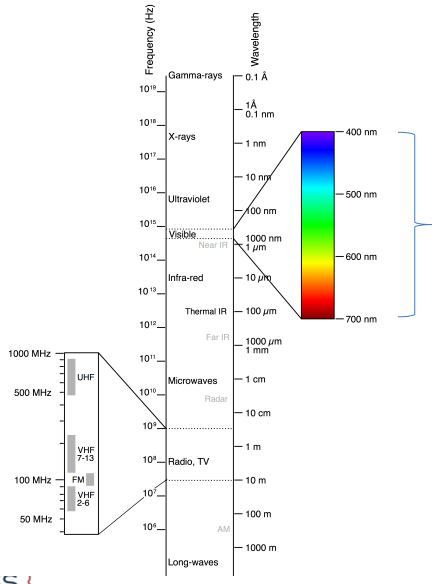
Sensory Sampling



Virkeligheden er begrænset af biologi – dvs. de biologiske sanse-receptorer.

'Sanser begrænser oplevet virkelighed'.

Mennesket kan se ca. 0,0035 % af det elektromagnetiske spektrum

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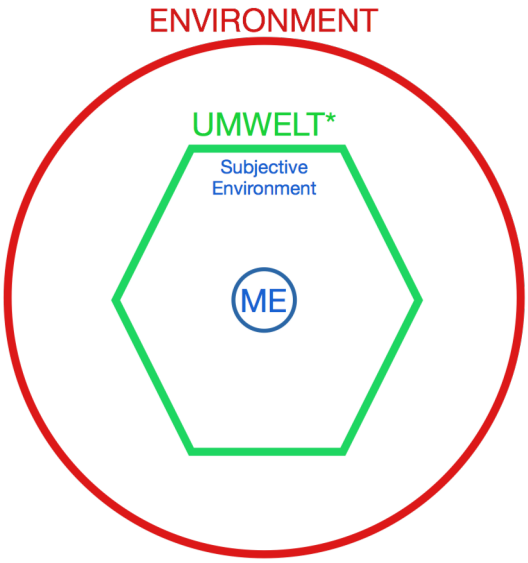
Sensory Sampling



Hjernen befinder sig i et rum af mørke og stilhed.
Alt hvad den 'oplever' er elektro-kemiske signaler.
Hjernen tolker så signalerne og 'laver' en historie - kaldet virkeligheden - dvs. en subjektiv verden – min UMWELT.

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*) Pruduced and projected by the predictive brain

EMBODIMENT

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Min krop er mig

Journal of Experimental Social Psychology 48 (2012) 918–926

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Reports

Enclothed cognition

Hajo Adam, Adam D. Galinsky *

Northwestern University, Evanston, IL 60208, USA

ARTICLE INFO

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Clothing
Attention
Identity

ABSTRACT

We introduce the term "enclothed cognition" to describe the systematic influence that clothes have on the wearer's psychological processes. We offer a potentially unifying framework to integrate past findings and to guide future research. We propose that the effects of clothing on the wearer's psychological processes involve the co-occurrence of two independent factors—the symbolic meaning of the clothes and the physical experience of wearing them. As a first test of our enclothed cognition perspective, the current research examines how wearing a lab coat influences the wearer's attention and performance on attention-related tasks. In Experiment 1, physically wearing a lab coat increased selective attention compared to not wearing a lab coat. In Experiment 2 and 3, wearing a lab coat described as a doctor's coat increased sustained attention compared to wearing a lab coat described as a painter's coat, and compared to simply seeing a lab coat. These results suggest that the effects of clothing on psychological processes involve a basic principle of enclothed cognition—it depends on both the symbolic meaning and the physical experience of wearing the clothes.

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"What a strange power there is in clothing."

—Isaac Bashevis Singer

Nobel Prize winning author Isaac Bashevis Singer asserts that the clothes we wear hold considerable power and sway. In line with this assertion, bestselling books such as *Dress for Success* by John T. Molloy and TV shows like TLC's *What Not to Wear* emphasize the power that clothes have on the perceptions and interactions of persons. Indeed, a host of research has documented the effects that people's clothes have on the perceptions and reactions of others. High school students' clothing styles influence perceptions of academic prowess among peers and teachers (Kelley & Mirabito, 1981). When women dress in a masculine fashion they are perceived as more intelligent, but as less interesting than teaching assistants who wear less formal clothes (Morris, Gorham, Cohen, & Huffman, 1996). When women dress in a masculine fashion during a recruitment interview, they are more likely to be hired (Forsythe, 1990). When people wear a lab coat and glasses, they are perceived as less competent (Lick, Lavers, Johnson, & Bransilver, 2005). Clients are more likely to return to formally dressed therapists than to casually dressed therapists (Tracy & Bendzy, 1992). And appropriately dressed customer service agents elicit stronger purchase intentions than inappropriately dressed ones (Chou, Kalra, & Rao, 2008).

Clothes have a lot of power, but power not only over others, but also over ourselves. Although identity scholars have long theorized that wearing clothes classes assuming a particular identity that elicits corresponding behaviors from the wearer (Stone, 1962), this second facet of the power of clothing has received far less attention in scholarly work. Indeed, research on the effects of clothing on psychological processes has been limited to the effects of clothing on perception. Most of this research has focused on the dehumanizing effects of clothes, but this literature has not always produced consistent effects. For example, wearing large hood-and-cape makes people more likely to administer electric shocks to others (Zimbardo, 1969), but wearing a nurse's uniform makes people less likely to administer these shocks (Johnson & Downing, 1979), a contradiction that dehumanization scholars have been struggling to reconcile (Lea, Spears, & de Groot, 2001; Spears, 1995). Furthermore, from a color psychology perspective, research has shown that professional sports teams wearing red uniforms (Frank & Gilovich, 1988) and sports teams wearing non-black uniforms (Frank & Gilovich, 1988). Finally, from a self-objectification perspective, research has found that wearing a bikini makes women feel ashamed, and less, and perform worse at math (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998).

We propose a potentially unifying framework to understand these past findings and to parsimoniously capture the impact of clothing on the wearer's perceptions and actions. Specifically, drawing from research on embodied cognition, we introduce the term

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E-mail address: agalinsky@kellogg.northwestern.edu (A.D. Galinsky).

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doi:10.1016/j.jesp.2012.02.008

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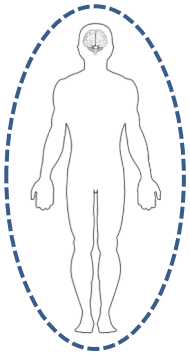
Designed Activities

Kroppen fungerer som grænseflade (interface) for kommunikationen mellem JEG'et og omverdenen og denne funktion er forudsætningen for at kunne føle kontrol over eget liv og dermed fungere som individ samt i en social kontekst.



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KROPSFORANKRET

I eksempelvis basketball udfører spillerne massevis af hurtige, præcise sekvenser af bevægelser, som de aldrig ville kunne have trænet i den kontekst, hvori de foregår. Disse bevægelser opstår kreativt, "on the fly" og "on-line" som situationen udvikler og udfolder sig - uafhængig af bevidst styring.

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Basic Mobility – Motor Planning – Purpose Action

At række ud efter en flaske vand og føre den op til munden for at slukke sin tørst er en handling, der sker uden bevidste tanker er involveret.

At kunne det kaldes motor planning, hvilket er en funktion, der er baseret på kognitiv-motorisk sammenspil.

Kognitive mekanismer kontrollerer alle motoriske handlinger ved at afkode sensoriske signaler for derpå at planlægge den motoriske handling, der er den bedste i den givne situation.

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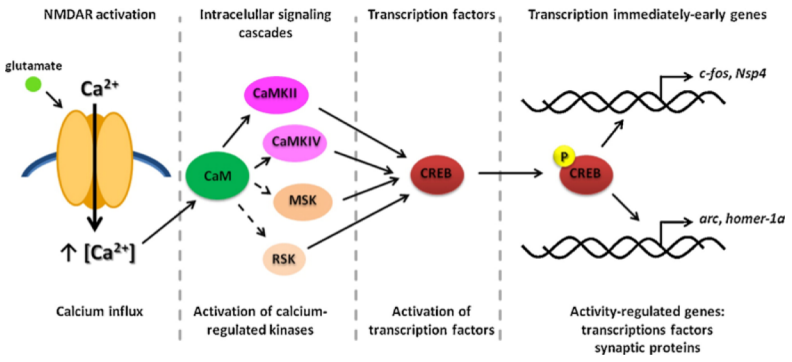
LÆRING



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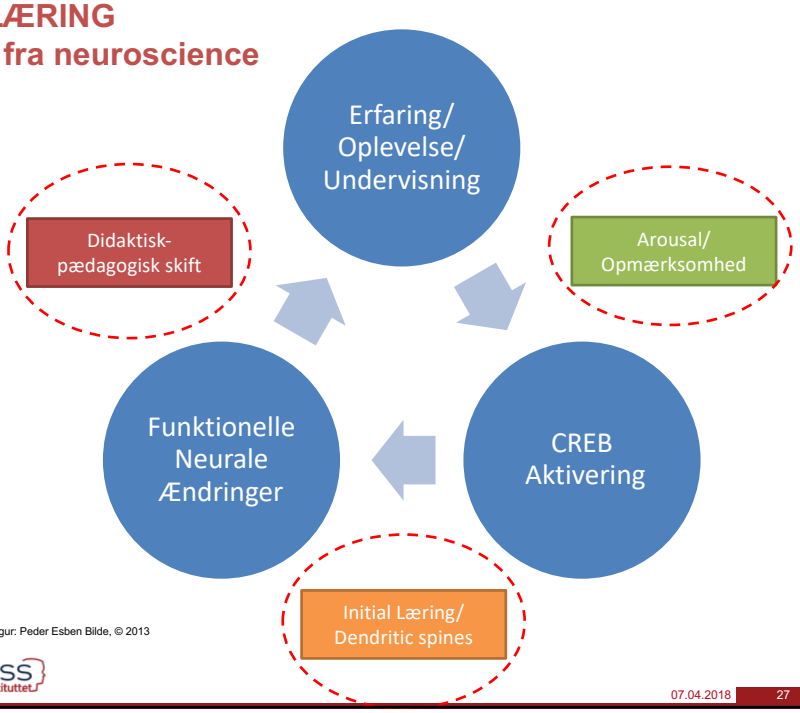
LÆRING
- fra neuroscience



Figur: Peder Esben Bilde, © 2013

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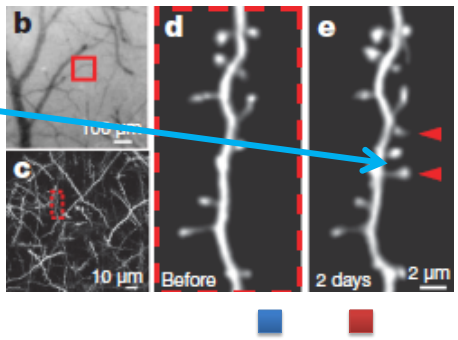
Optimering af neurale netværk

These studies indicate that learning and daily sensory experience leave minute but permanent marks on cortical connections and suggest that lifelong memories are stored in large stable connected synaptic networks.



Guang Yang, Feng Pan & Wen-Biao Gan
Molecular Neurobiology Program, The Helen and Martin Kimmel Center for Biology and Medicine at the Skirball Institute of Biomolecular Medicine, Department of Physiology and Neuroscience, New York University School of Medicine, New York, New York 10016, USA.Max , 2010

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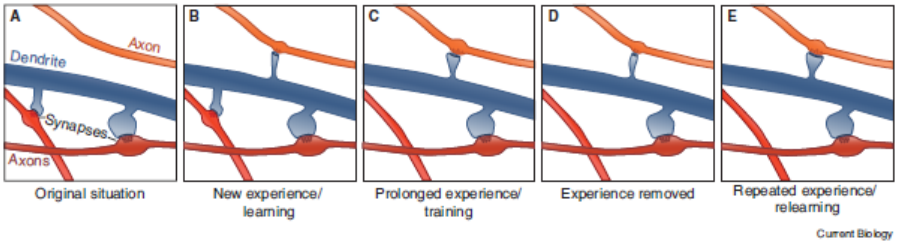
Systemisk – Global optimering af neurale netværk



Sonja B. Hofer, Thomas D. Mrsic-Flogel, Tobias Bonhoeffer & Mark Hübener,
Max Planck Institute of Neurobiology - NATURE| Vol 457| 15 January 2009

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Basic Mobility

Kognitiv-Motorisk Læring
– vejen til kognitiv kropsforankring

Kognitiv-Motorisk Læring har som formål at udvikle evnen til at identificere og registrere, hvor og hvordan kroppen befinder sig i rummet samt fornemme og forudsige den indsats, energi og kraft, der kræves for at udføre en given handling.

Det vil sige at forholde sig til omverdenen via og med kroppen.

I psykologi og filosofi benævnes det at være 'cognitive embodied'.

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Designed Activities

Forskellige typer af fysisk aktivitet stiller forskellige krav til motorisk-kognitiv interaktion.

Designed Activities som model indebærer at fysisk udfoldelse målrettes til at optimere kognitiv udvikling og føre til alsidig læring.

VARIATION
OVERRASKELSE
NYE UDFORDRINGER

CAMP-konceptet
MiTii
Build2Move
Sport4Brains
MOVES

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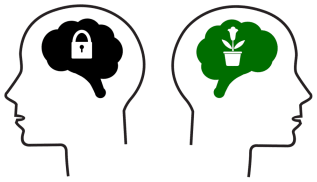
Mindset

Mennesker med et låst mindset tror:

at du har fastsatte kvaliteter

at intelligens, karakter og personlighed er som de er, fordi det er sådan du blev født.

Det er uforanderligt.



Mennesker med et vækst mindset tror:

at dine basale kvaliteter er noget du kan udvikle via din egen indsats.

at alle kan vokse og ændres gennem læring og erfaring.

Hvad enten du tror du kan eller tror du ikke kan,

så har du helt ret !

Carol S. Dweck, Ph.D., Lewis and Virginia Eaton Professor of Psychology at Stanford University

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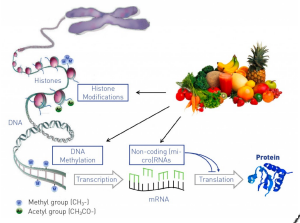
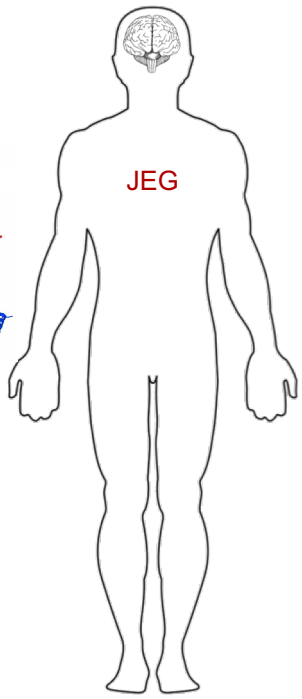
EPIGENETIK
OG KOST

OMVERDEN

JEG





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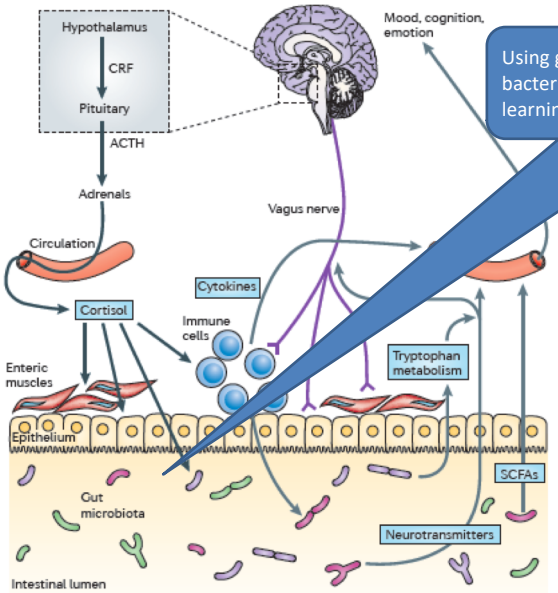

Using germ-free mice, research shows gut bacteria influences how the brain is wired for learning and memory.

The gut-brain axsis

Department of Psychiatry and Behavioural Neurosciences of the Michael G.DeGroote School of Medicine, Canada

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Det Humane Mikrobiom

Vi lever i en sky af mikroorganismer som har en afgørende indflydelse på vores adfærd

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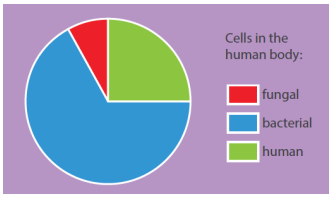
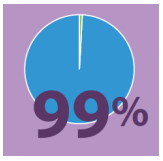
Det Humane Mikrobiom



En menneskekrop består af ca. 25% humane celler, mens den største andel af det samlede mikrobiom udgøres af bakterier og andre mikroorganismer.

99% af det samlede menneskelige genom udgøres af gener fra mikroorganismer.

Mikroorganismer bidrage således med ekstra 2.000.000 gener til hvert individ. Det primære humane genom i de humane celler udgør blot 20.000 gener



American Society For Microbiology, 2015

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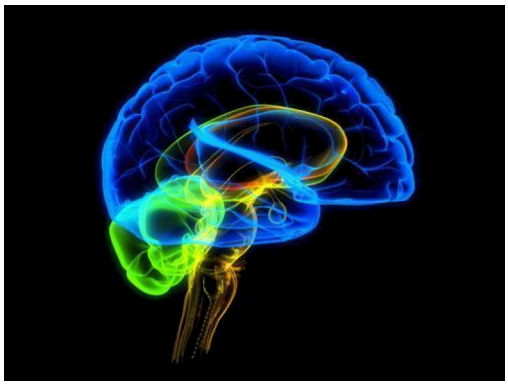
Hvad kan kost gøre for vores hjerne?



✓Byggemateriale

✓Motivation / indlæringsevne

✓Energi

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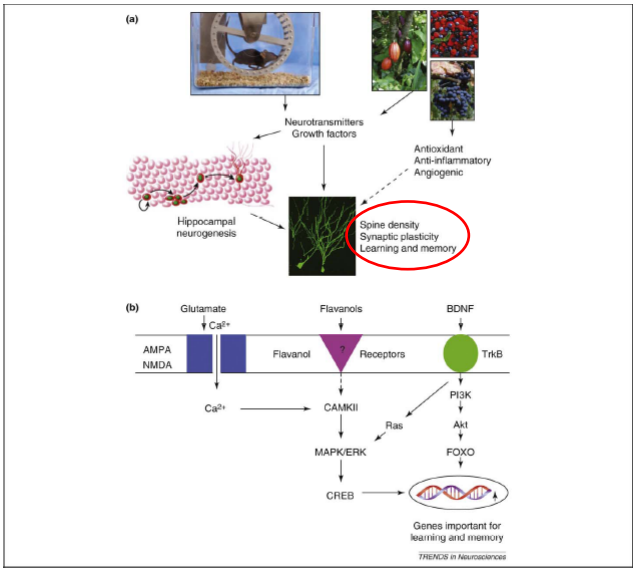
Træning og kost



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En foreløbig liste over kerneingredienserne:

Nucleosides
- Uridine
- Choline

etc.

DHA
- Omega 3

Flavonoids
Vitamins
Curcumin

+ Exercise

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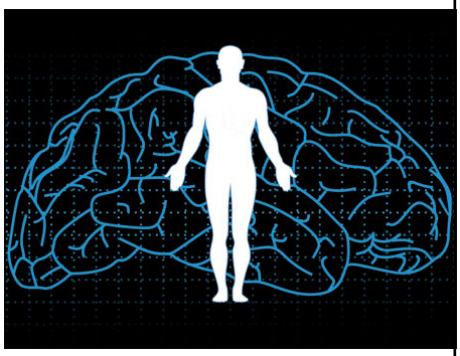
Den Positive Tilgang

Alle systemer i det menneskelige maskineri er foranderlige – dvs. de kan ændres og optimeres



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