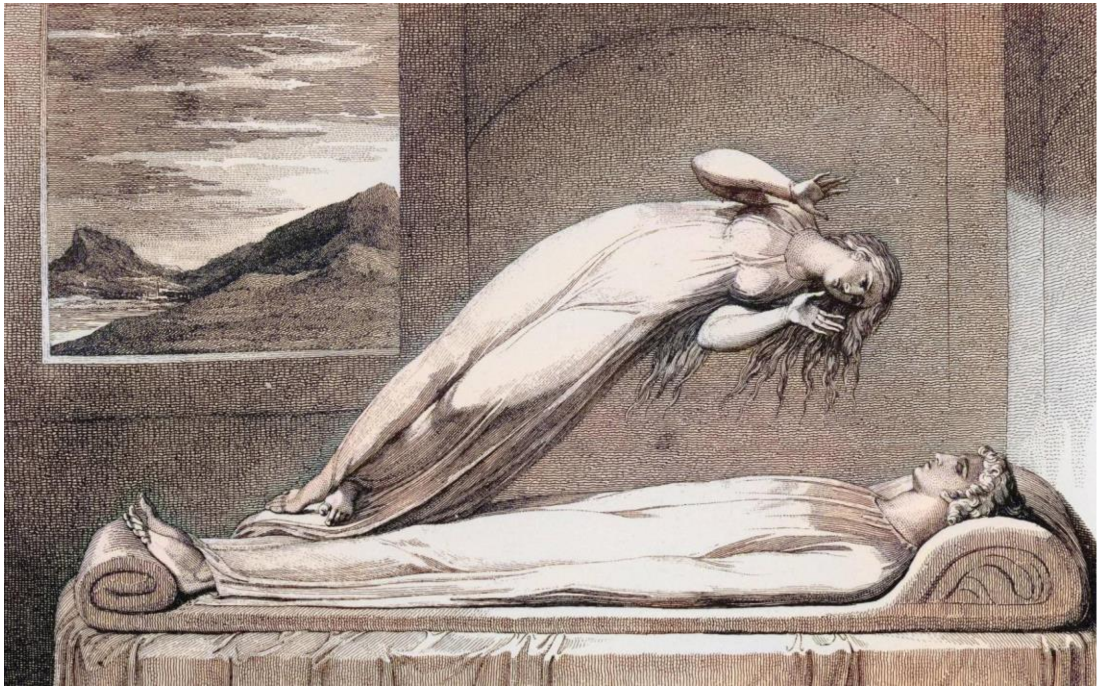

Qu'est-ce qui relie le corps et l'esprit ?

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The soul leaving the body, 1808. Credit: Chroma Collection / Alamy Stock Photo.

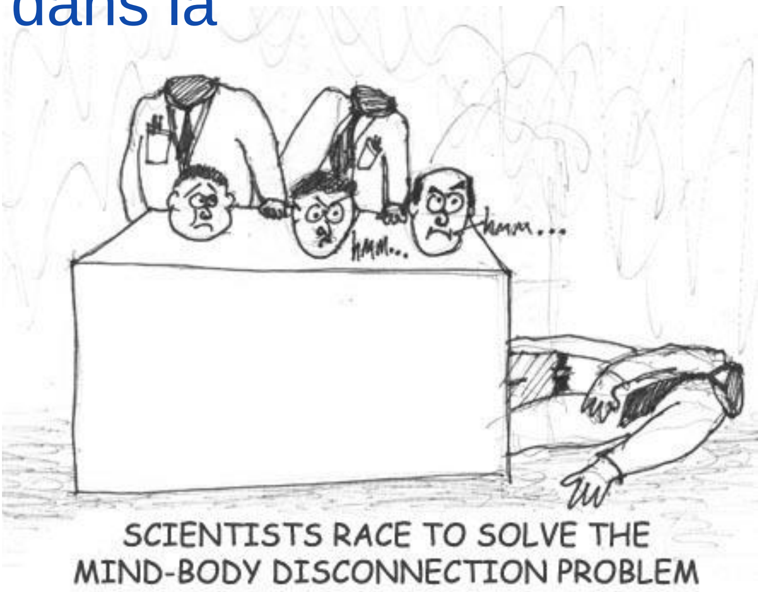
Les objectifs

Discuter des développements de la philosophie et de la recherche de ces dernières années qui mettent en évidence le rôle important du corps dans la psychothérapie et l'art-thérapie

- Philosophie/Théorie

- Corporalité

- Inter-corporalité



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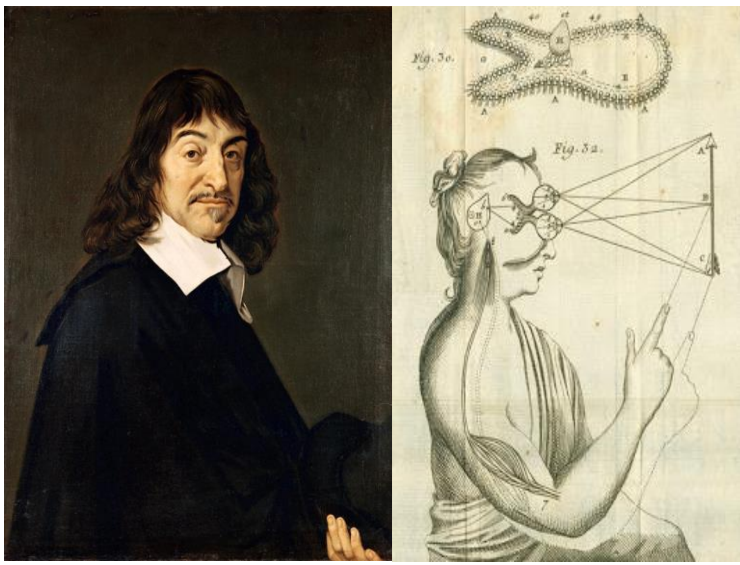
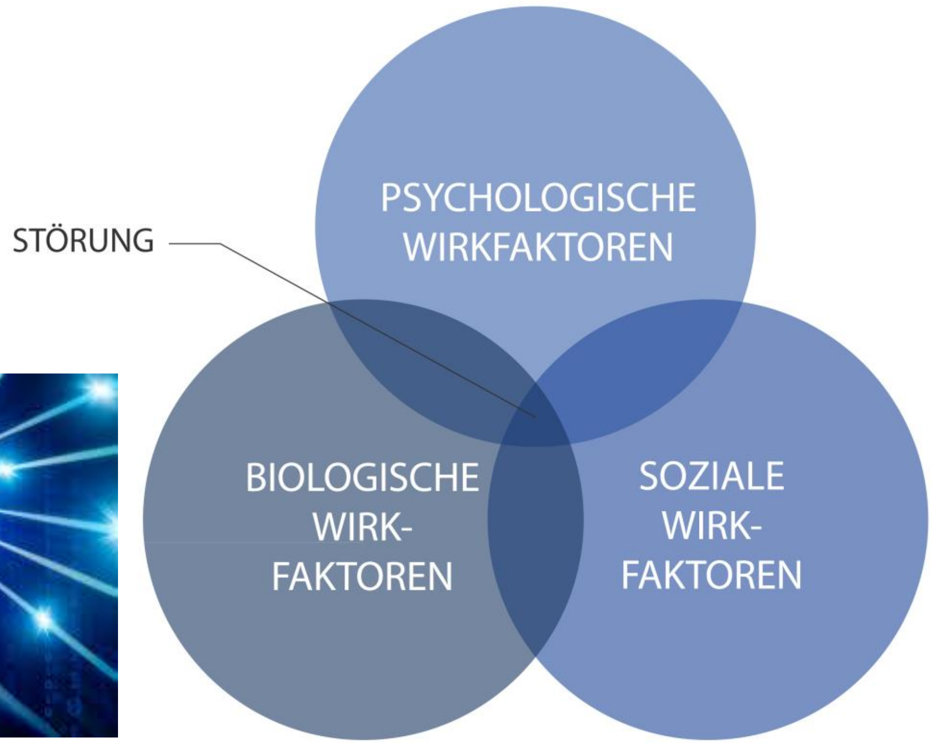
Les modèles de l’être humain

Descartes: Dualisme



Bio-médical : Moniste

Engel: le modèle biopsychosocial



Engel G. The need for a new medical model: A challenge for biomedicine. Science 1977; 196: 129–136 doi: 10.1126/ science.847460

Embodiment (corporalité)

Major Embodiment Approaches (Overview)		
Philosophy	Merleau-Ponty, 1962 Hurley, 1998	Perception is grounded in the body Unity of perception and action
Anthropology	Lock & Scheper-Huges, 1987 Csordas, 1988, 2002	The phenomenal body Culture is grounded in the body
Linguistics	Lakoff & Johnson, 1999	Concepts are grounded in the body Language/metaphor is grounded in the body Unity of perception and conception
Neurosciences	Gallese, 2003	Embodied Cognition/Simulation
Artificial Intelligence	Clark, 1997	Intellect/being is grounded in the body
Psychology	Varela, Thompson & Rosch, 1991	The embodied mind
Social Psychology	Barsalou, Niedenthal et al., 2003 Niedenthal et al., 2005	Cognition is grounded in the body Attitudes/emotions are grounded in the body
Memory Research	Glenberg, 1997	Memory is grounded in the body
Developmental Psych.	Thelen, 1995; 2000	Development is grounded in the body Primacy of Motion

Koch 2015 Interdisciplinary Embodiment Approaches (chapter)

Francisco Varela: Enactivisme

Francisco Varela (1946 – 2001)

La relation inhérente et circulaire entre l'esprit (cognition, émotion), le corps (comportement moteur, expression non verbale, processus physiologiques) et l'environnement

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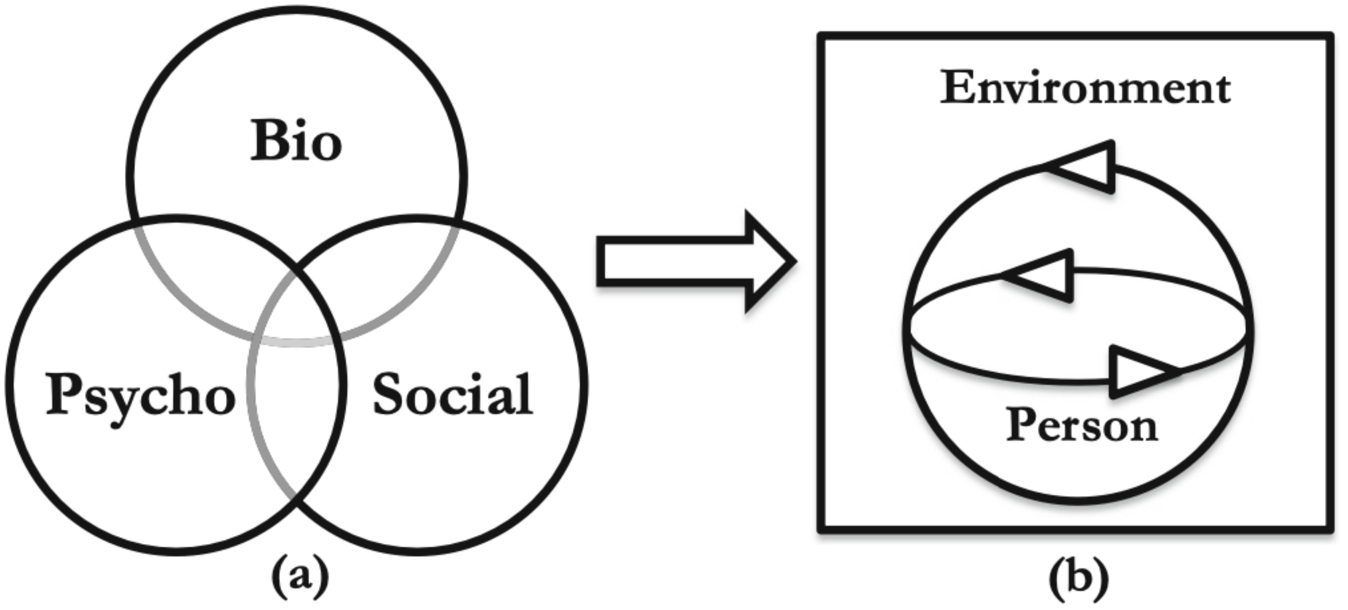
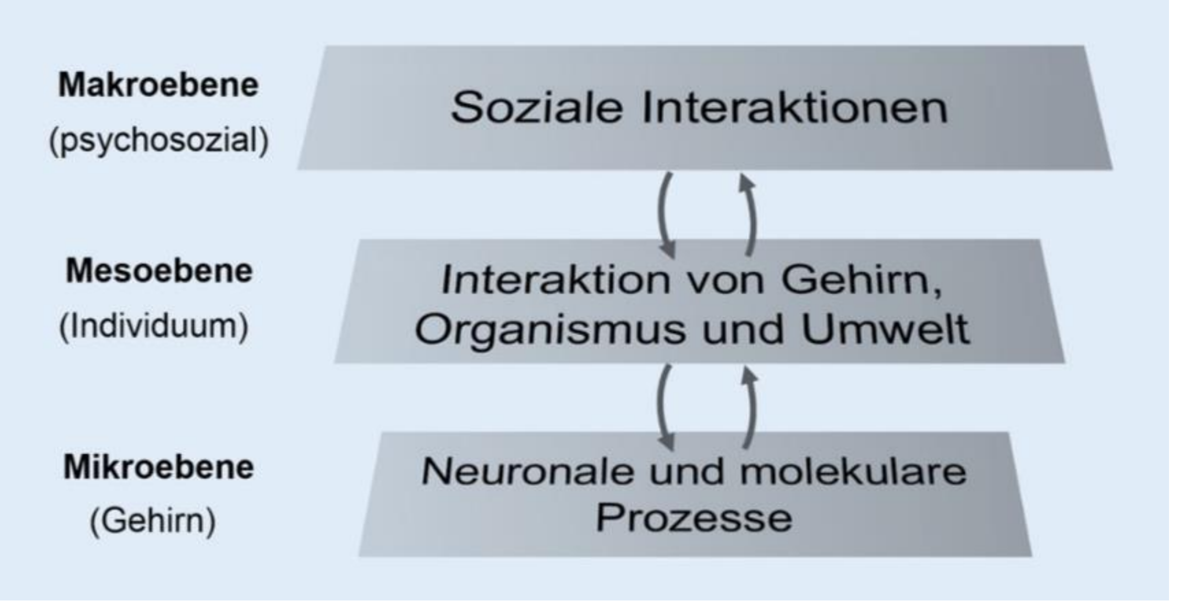
Varela FJ, Rosch E, Thompson E. The Embodied Mind. Cognitive Science and Human Experience. Cambridge: MIT Press; 1992

Du BPS à l'énactivisme



Développement : 4E Cognition



Extended

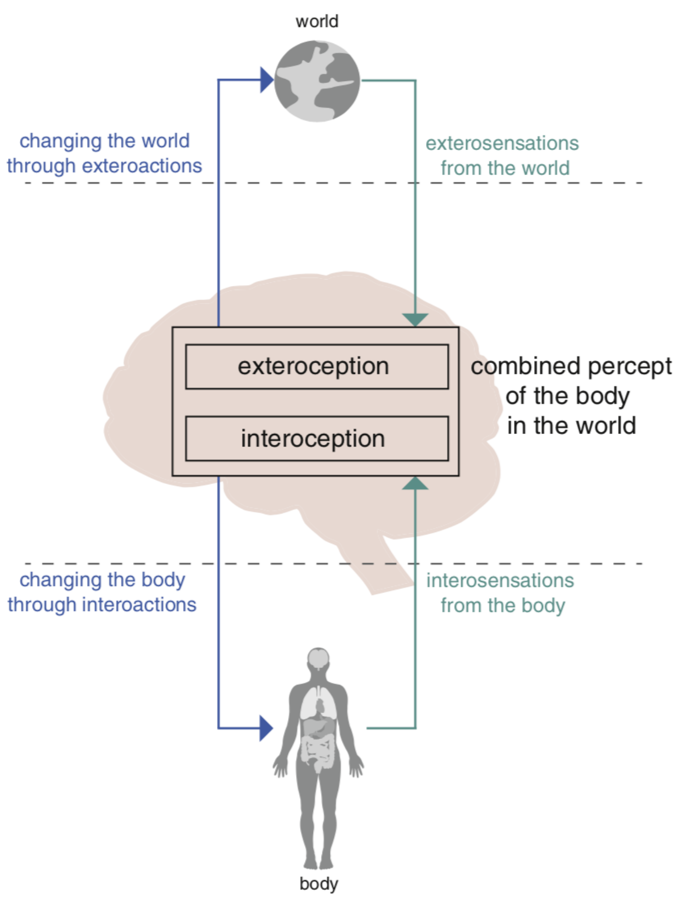
Embedded

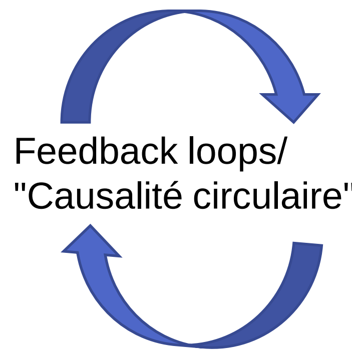
Enacted

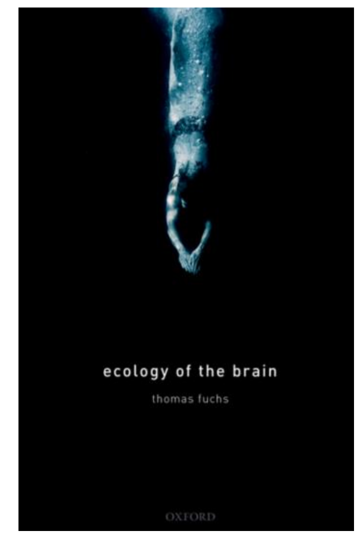
Embodied

Fuchs 2017 Der Nervenarzt ; Menary R. Phenomenol Cogn Sci 2010; 9: 459–463 doi: 10.1007/ s11097-010-9187-6
Newen A, De Bruin L, Gallagher S. The Oxford Handbook of 4E Cognition. Oxford: Oxford University Press; 2018

Thomas Fuchs :
le cerveau comme organe environnemental







Petzschner, F. H., et al. *Biol. Psychiatry* **82,** 421–430 (2017). 10.1016/j.biopsych.2017.05.012.

Qu'est-ce que cela signifie ?

- Embodiment/corps : le corps est impliqué dans la cognition, le comportement et l'expérience.

- Enactivisme : la cognition humaine est orientée vers l'action - nous pensons avec et à travers notre interaction physique avec le monde.

“Ago ergo cogito – I act, therefore I think” (Glenberg, 2005)

- La perception n'est pas un processus passif, mais elle est étroitement liée à l'action et guidée par elle.
- L'action-perception est centrale pour la manière dont nous percevons nous-mêmes et le monde.
- Les processus cognitifs ne sont pas des représentations ou des calculs abstraits dans notre cerveau.
- Les réseaux neuronaux fonctionnent en étant intégrés dans un corps qui se déplace à son tour dans des contextes sociaux et culturels spécifiques (importance de l'environnement).

Perspective éco-sociale

- Développement, variation individuelle, apprentissage, expérience
- Biographie, événements de la vie, transitions
- Compréhension de soi, identité
- Socio-culturel : vulnérabilité, précarité, stigmatisation, racisme, discrimination mais aussi ressources, résilience.
- Culturel-historique : compréhension des valeurs, approche de la maladie, recherche d'aide, attentes et réponse aux interventions.

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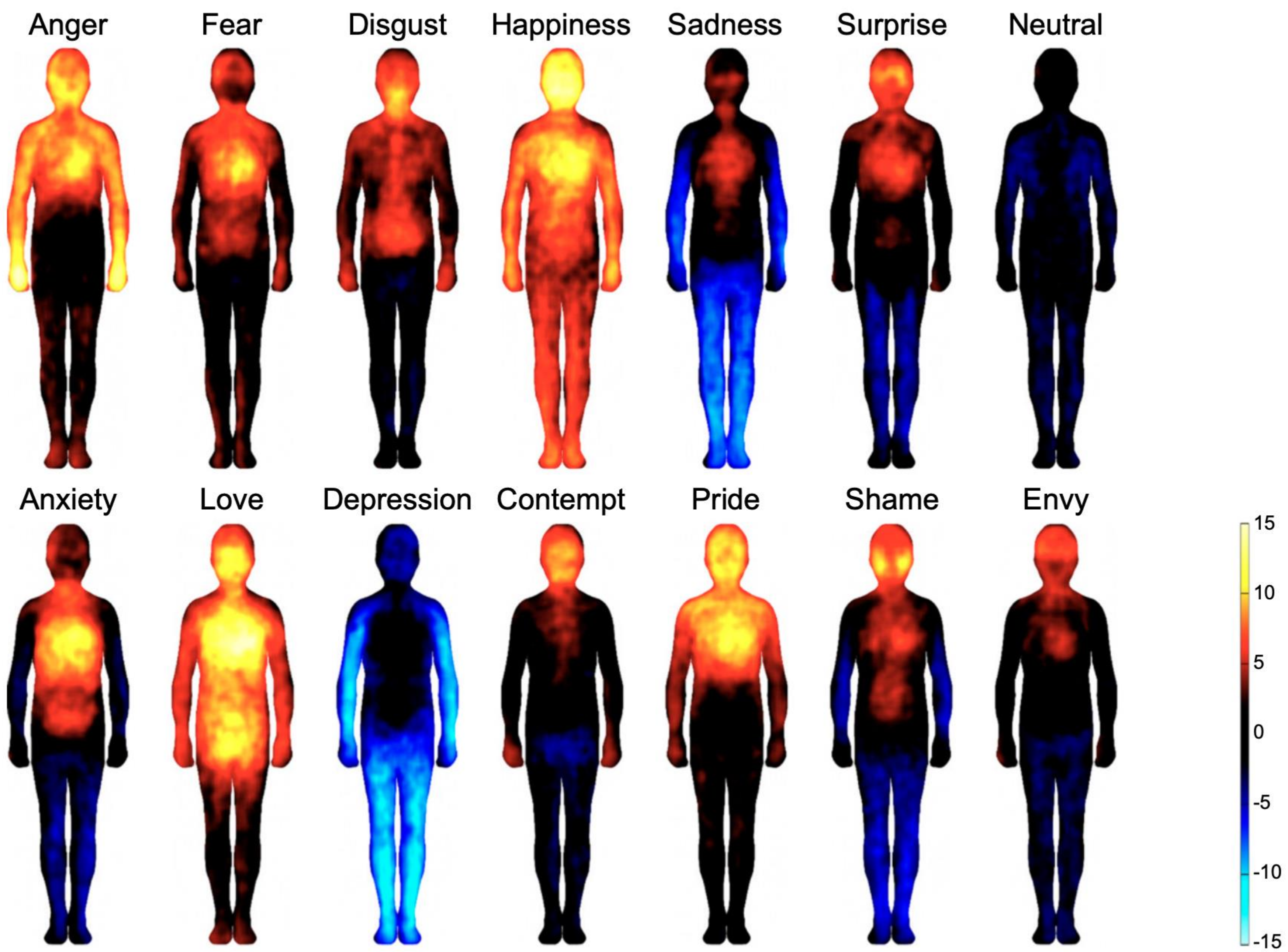
Ana Gómez-Carrillo et al., Lancet Psychiatry. 2023; 10(4):296-304. doi: 10.1016/S2215-0366(23)00006-8.

La recherche empirique



Nummenmaa L et al. Proc Natl Acad Sci USA 2014; 111: 646–651 doi: 10.1073/pnas.1321664111

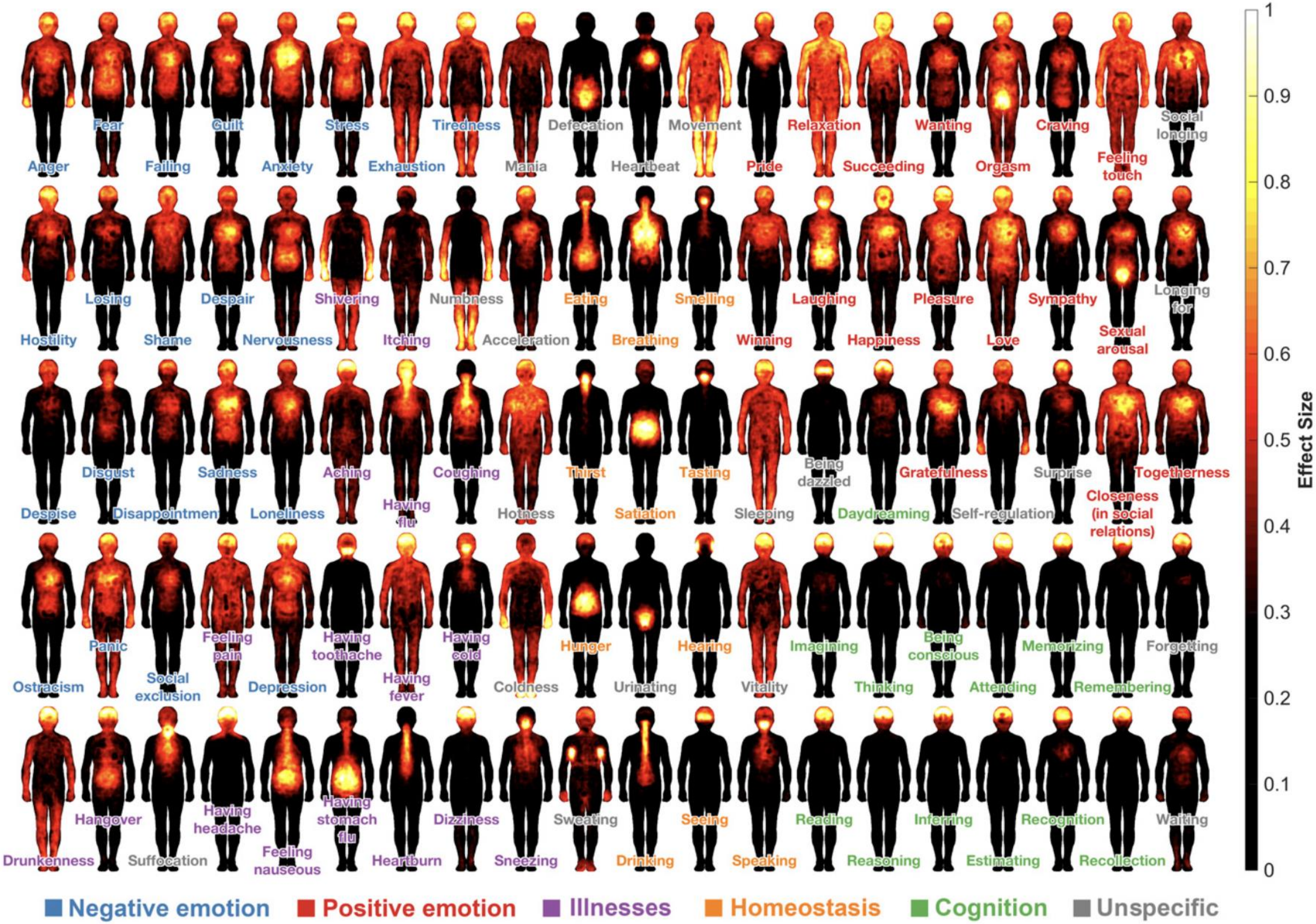


Fig. 3. Bodily feeling maps. Pixel intensities show regions where each feeling was associated with statistically significant ($P < 0.05$, FDR corrected) bodily sensations. The data are arranged into the matrix approximately as in Fig. 2; clustering is per Experiment 2. Colorbar indicates the effect size. See *SI Appendix*, Figs. S4 and S5 for spatial arrangement per t-SNE.

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Nummenmaa L et al. Proc Natl Acad Sci USA 2018; 115:9198-9203 doi/10.1073/pnas.1807390115

La corporalité de la dépression

Table 2. GBM and depression severity

	N	*R*	*p* value
BDI-II			
GBM and depression severity (total score)	41	−0.34	0.03*
Controlled for antidepressive medication and age	41	−0.39	0.02*
Without restlessness[1]	39	−0.36	0.02*
GBM and restlessness	39	0.06	0.71
HAMD			
GBM and depression severity (total score)	41	−0.38	0.02*
Controlled for antidepressive medication and age	41	−0.39	0.02*
Without psychomotor retardation and agitation[1]	41	−0.40	0.02*
GBM and psychomotor retardation	41	−0.24	0.13
GBM and psychomotor agitation	41	0.16	0.34

GBM, gross body movement; BDI-II, Beck Depression Inventory-II; HAMD, Hamilton Depression Rating Scale. [1] Correlations between GBM and depression severity scales without the respective items assessing psychomotor symptoms. * $p < 0.05$, two-tailed.

Sandmeir, A., (2021). *Depression Severity Is Related to Less Gross Body Movement: A Motion Energy Analysis. Psychopathology, 54(2), 106–112.* doi:10.1159/000512959

Intercorporalité : Synchronie / Résonance

E. Prochazkova, M.E. Kret *Neuroscience and Biobehavioral Reviews 80 (2017) 99–114*

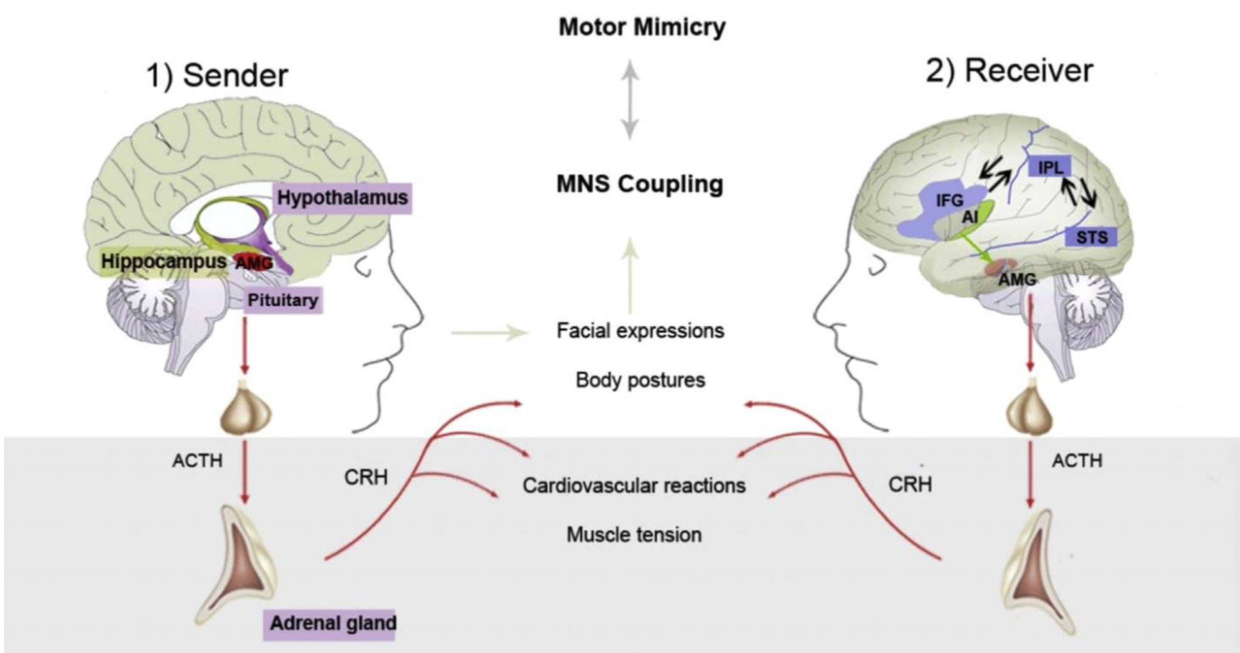


Fig. 4. Motor mimicry (1) Observation of bodily movements activates the STS which is involved in early visual description of actions. (2) The STS projects to the IPL with *mirror* neurons tracking precise kinaesthetic movements and (3) passes this information to the IFG coding for 'the goal of the action'. (4) The goal directed motor plans are sent from the IFG via the IPL back to the STS. (5) The MNS coupling initiates motor mimicry. The anterior insula AI (green) connects MNS with AMG and provides a possible neurological crossroad between these two independent, yet mutually interacting systems. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Prochazkova & Kret, Neuroscience and Biobehavioral Reviews 80 (2017) 99–114

Système nerveux autonome

E. Prochazkova, M.E. Kret — Neuroscience and Biobehavioral Reviews 80 (2017) 99–114

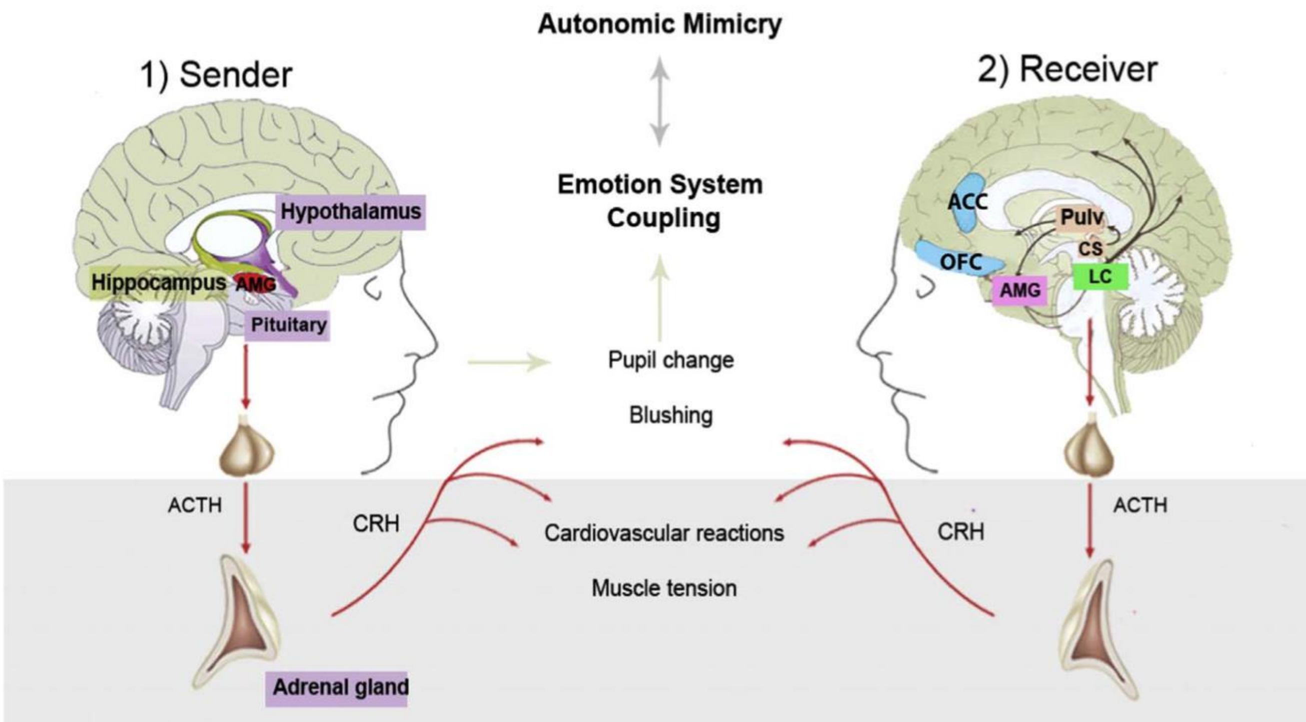


Fig. 3. Neurological Mechanisms of Autonomic Mimicry. **Sender**: (1) Sender's stress response is initiated by hypothalamus-pituitary-adrenal axis activation. (2) Adrenal gland secretes ACTH increasing the level of CRH in the bloodstream. (3) The neuroendocronological reactions are accompanied by cardiovascular changes, muscle tension, pupil dilation, blushing, and sweating. **Receiver**: (4) The affective information is implicitly registered by receivers' senses and passes through (5) the CS-Pulv pathway to the AMG. (6) The AMG and LC activate the HPA. (7) AMG and LC project to higher cortical networks such as OFC, ACC and VMPFC influencing social decisions. (8) Sender and receiver emotionally converge on *physiological* (gray) and *cognitive* (white) levels.

Interactions sociales

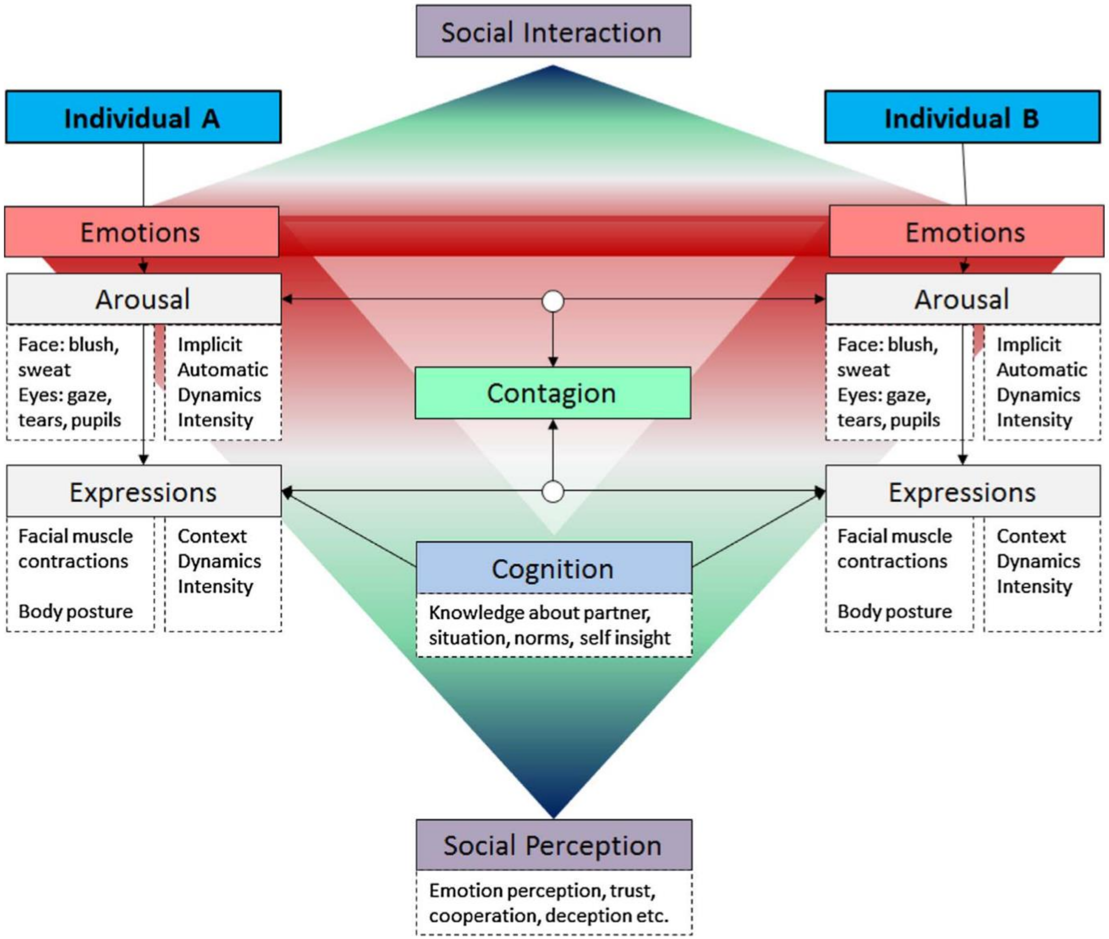
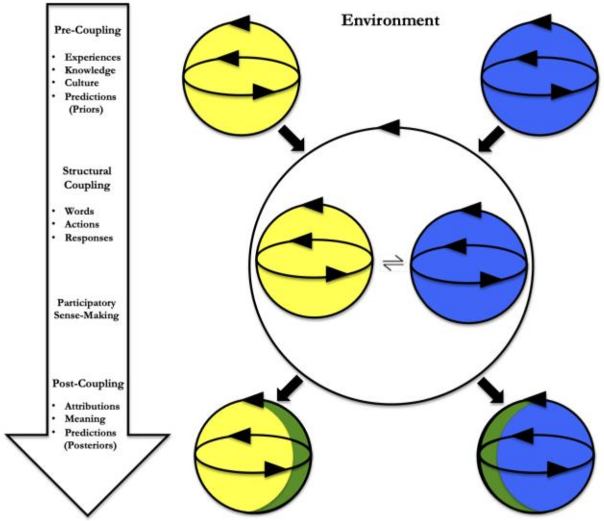


Fig. 2. Schematic representation of emotion processing during social interactions, adapted from Fig. 1, Kret (2015) shows how *emotions* that are expressed during a social interaction by Person A, through emotional *contagion*, influence the emotions and expressions of Person B. Person A and B not only mimic each other's facial expression, they also link on the physiological level and without being aware of it, synchronize on the level of arousal.

Prochazkova & Kret, Neuroscience and Biobehavioral Reviews 80 (2017) 99–114

Qu'en est-il du corps en psychothérapie ?

- Phénomènes de transfert/contre-transfert
- Rendre explicite la communication non-verbale implicite => méthodes corporelles et art-thérapeutiques
- Signification



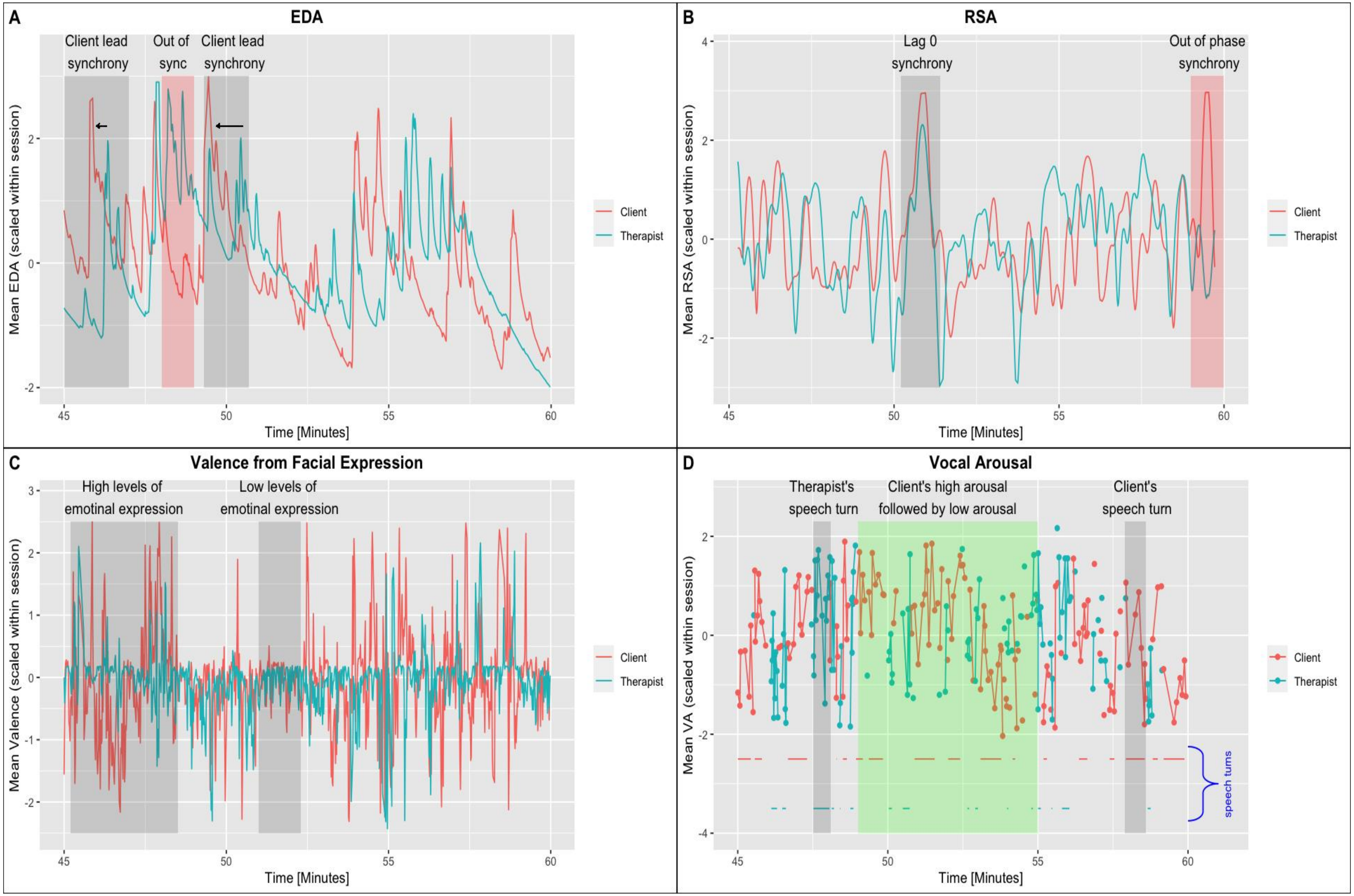
Saisir l'embodiement et la synchronie

Verbal & paraverbal

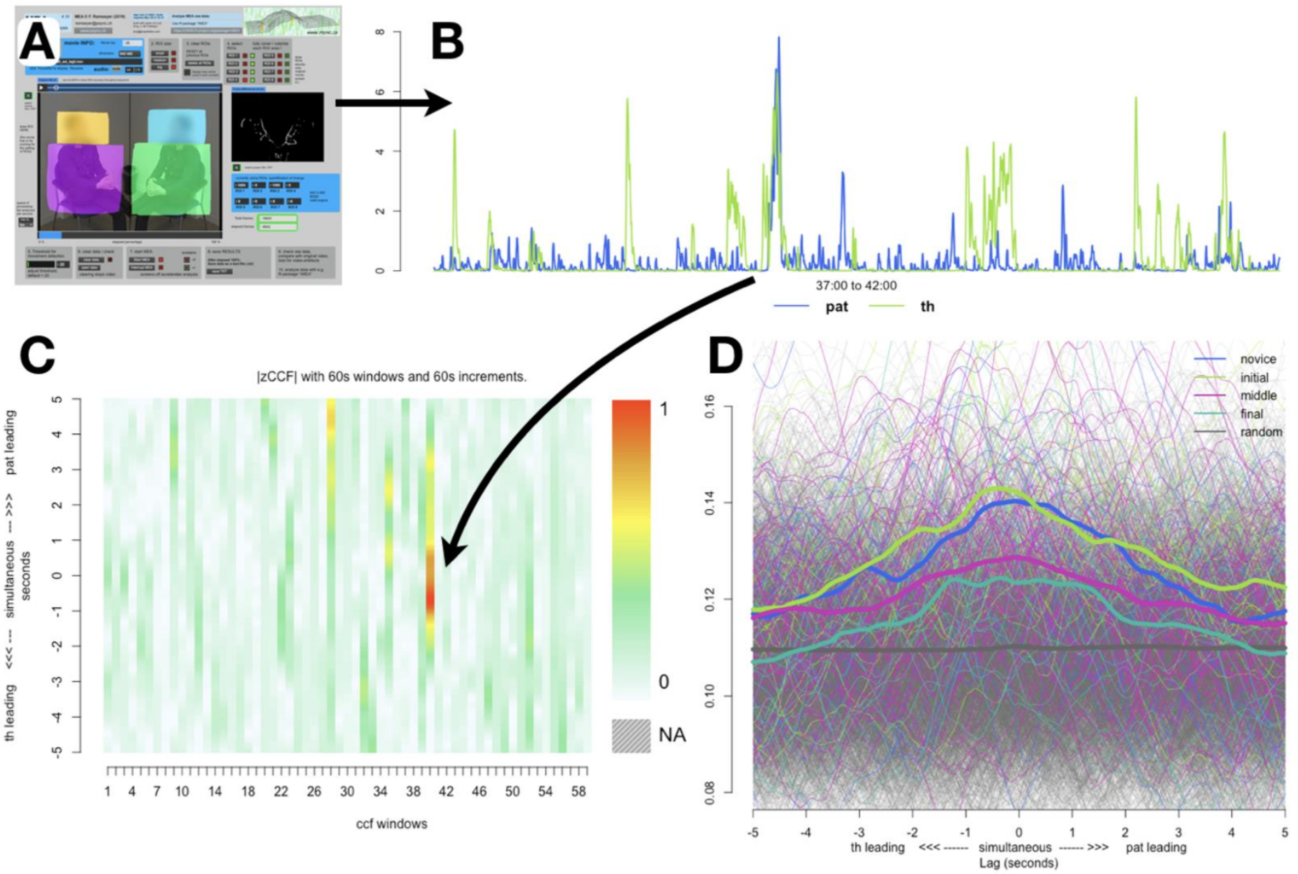
- Flux de parole, vitesse, volume
- Langue commune (linguistique)
- Silence

Non verbal Physiologique

- Rythme cardiaque / variabilité du rythme cardiaque (ECG)
- Respiration
- Ondes cérébrales (EEG)
- Mouvement (analyse de l'énergie motrice, MEA)
- Conductivité cutanée

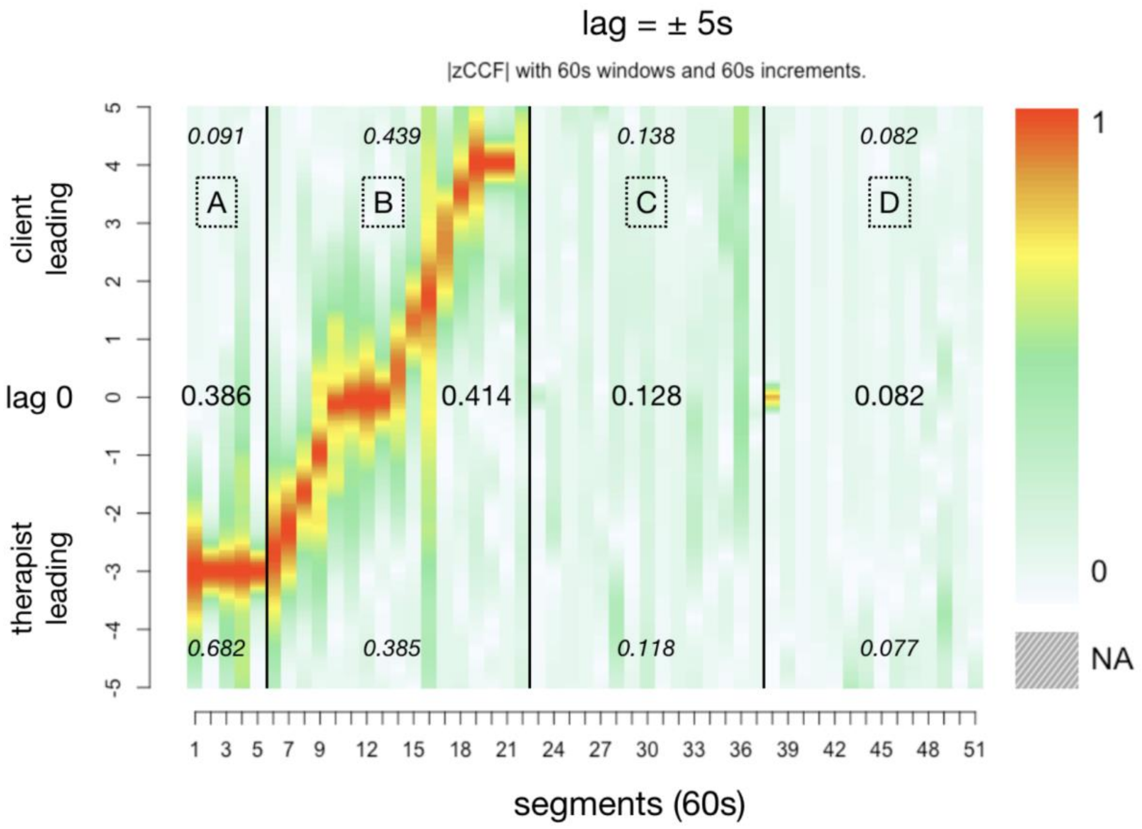

A
EDA
Client lead synchrony
Out of sync
Client lead synchrony
Mean EDA (scaled within session)
Time [Minutes]
B
RSA
Lag 0 synchrony
Out of phase synchrony
Mean RSA (scaled within session)
Time [Minutes]
C
Valence from Facial Expression
High levels of emotinal expression
Low levels of emotinal expression
Mean Valence (scaled within session)
Time [Minutes]
D
Vocal Arousal
Therapist's speech turn
Client's high arousal followed by low arousal
Client's speech turn
speech turns
Mean VA (scaled within session)
Time [Minutes]
Client
Therapist

Analyse de l'énergie moteur



Ramseyer, F. T. (2020). Motion energy analysis (MEA). *Journal of Counseling Psychology*, *67*(4), 536-549. doi:10.1037/cou0000407

Analyse de l'énergie moteur



Preuves empiriques/recherche

	ES_{abs}(SUSY)	ES_{noabs}(SUSY)	Concordance Index (SUCO)
Respiration	[synchrony not clearly present]	[in-phase synchrony] +Alliance_cl +Progress_th	[in-phase synchrony] +Session number +client[vreme]
Electrocardiogram	[no synchrony]	[no synchrony]	[no synchrony]
Heart rate	[synchrony]	[anti-phase synchrony] –Cooperation_th +Progress_th	[anti-phase synchrony] +Alliance_cl +Well-being_cl –Progress_cl +client[vreme]
Heart rate variability	[synchrony]	[synchrony not clearly present] + Alliance_th	[no synchrony] – Cooperation_th – client[vreme]

Notes. SUSY, surrogate synchrony method, based on absolute cross-correlation values (ES_{abs}), or based on cross-correlation values (ES_{noabs}). In square brackets, summary of hypothesis 1 “Synchrony present”. SUCO, surrogate concordance method. **+**, significant positive association; **–**, significant negative association.

Tschacher & Meier, Psychotherapy Research, 2019 1-16 https://doi.org/10.1080/10503307.2019.1612114

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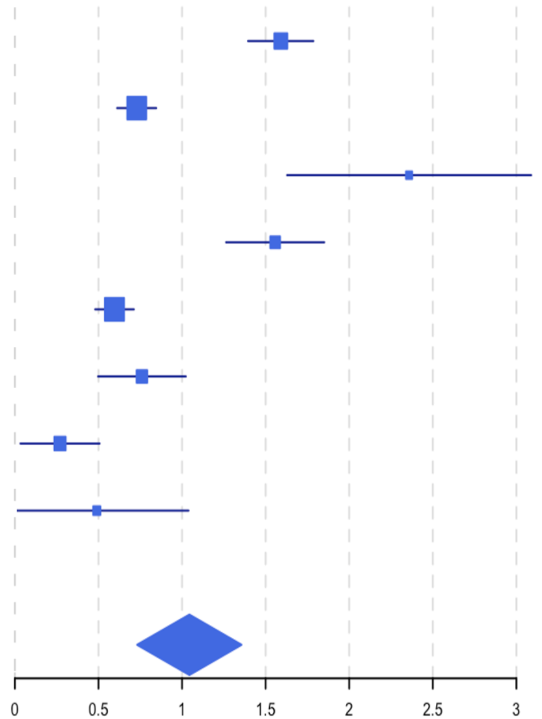
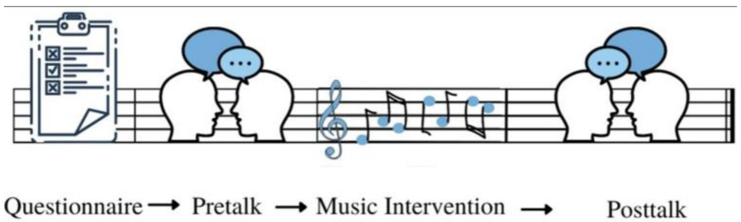
Méta-analyse Synchronie en psychothérapie

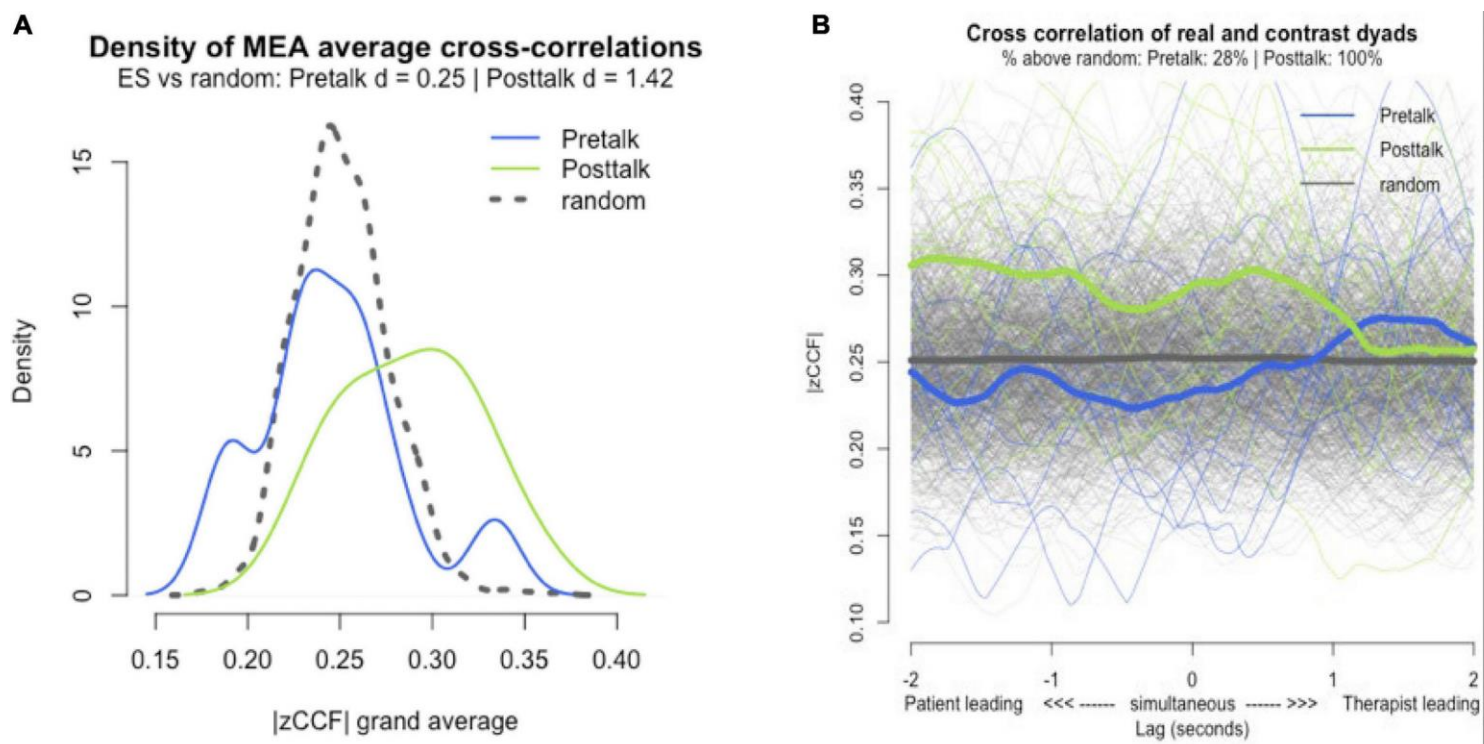
Study	Cohen's *d*	Variance
Bar-Kalifa et al, 2019	1.59	0.01
Deres-Cohen 2021	0.73	0.004
Marci 2007	2.36	0.139
Paulick 2018	1.56	0.022
Prinz 2020	0.6	0.003
Ramseyer 2020	0.76	0.018
Ramseyer et al, 2020	0.27	0.015
Ramseyer & Tschacher 2010/2011	0.49	0.078
Summary	**1.04**	**0.036**



Atzil-Slonim et al., Psychother Res 2023 33(7):898-917. doi: 10.1080/10503307.2023.2191803.

Musicothérapie





Yap, Front. Hum. Neurosci., 2022, Sec. Cognitive Neuroscience Vol 16 doi.org/10.3389/fnhum.2022.912729

Application dans la pratique

- Être attentif à ses propres états affectifs et physiques
- Tenir compte du contexte émotionnel dans lequel la synchronie se produit.
- Certains contextes sont susceptibles de nécessiter un niveau élevé de synchronie (émotions adaptatives), tandis que d'autres contextes sont susceptibles de nécessiter un niveau relativement faible de synchronie (par exemple, les émotions maladaptatives).
- Se déplacer de manière souple dans et hors de la synchronicité => mouvements dynamiques entre synchronisation et séparation probablement adaptatifs

Atzil-Slonim et al., Psychother Res 2023 33(7):898-917. doi: 10.1080/10503307.2023.2191803.

Résumé

- Le corps et l'esprit sont étroitement liés
- Le corps est impliqué dans l'émotion, la cognition, la perception et le comportement
- Les processus corporels jouent un rôle important dans toutes les formes de psychothérapie (y compris l'art-thérapie).
- Les thérapeutes peuvent utiliser les aspects incarnés dans le processus thérapeutique

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