Research Unit Affective & Social Neuroscience

ASAG ALTA SCUOLA DI PSICOLOGIA AGOSTINO GEMELLI

Workshop

MENTE E CERVELLO: LA NEUROPSICOLOGIA TRA NEUROMANIA E NEUROFOBIA

7 NOVEMBRE 2014

UNIVERSITÀ CATTOLICA DEL SACRO CUORE

VIA NIRONE, 15, MILANO

PROGRAMMA

10.30	**Apertura lavori** – Albino Claudio Bosio, Preside Facoltà di Psicologia Paolo Bartolomeo, Michela Balconi
10.45	**Introduzione**: Paolo Bartolomeo, *Università Cattolica del S. Cuore di Milano*
11.00	**Neuromania:** Carlo Umiltà, *Università degli Studi di Padova*
12.00	**Discussant** Chair: Michela Balconi, *Università Cattolica del S. Cuore di Milano*
12.30	**Lunch**
14.00	**Neurofobia:** Giovanni Berlucchi, *Università degli Studi di Verona*
15.00	**Discussant** Chair: Alessandro Antonietti, *Università Cattolica del S. Cuore di Milano*
15.30	**Chiusura lavori**

Modalità di iscrizione: Dato il numero limitato di posti, si prega di notificare la propria adesione tramite e-mail (info@psychoneuronet.com), indicando nome, cognome e affiliazione.
Sarà riconosciuto un attestato di partecipazione.

INFO: www.psychoneuronet.com

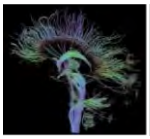
Comitato Scientifico:
Paolo Bartolomeo
Michela Balconi

Segreteria Organizzativa:
Maria Elide Vanutelli
Davide Crivelli

Neuropsychological Trends

PSYCHONEURONET

SIPF Società Italiana di Psicofisiologia



Master di II livello
NEUROPSICOLOGIA: VALUTAZIONE, DIAGNOSI E RIABILITAZIONE

NEUROMANIA

Prof. Carlo Umiltà

CHE COSA POSSONO DIRCI LE NEUROIMMAGINI SULLA MENTE?

Carlo Umiltà

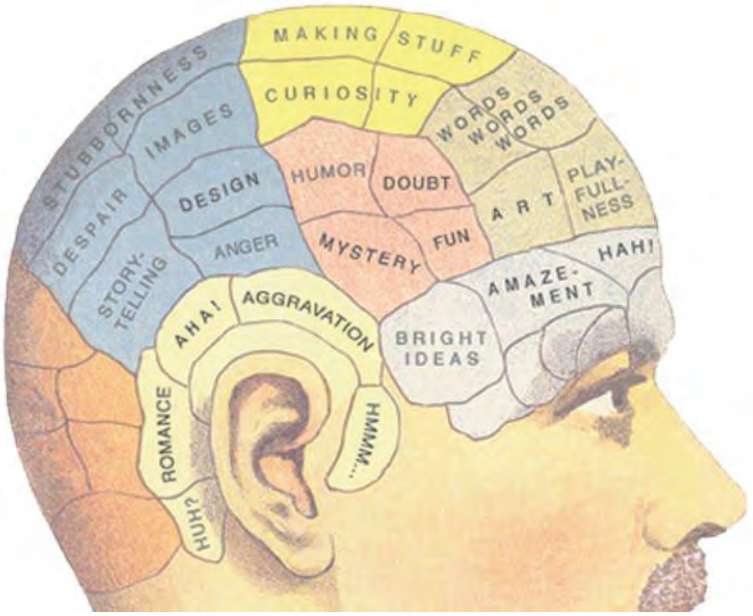
Università di Padova

ASSUNZIONE DI BASE

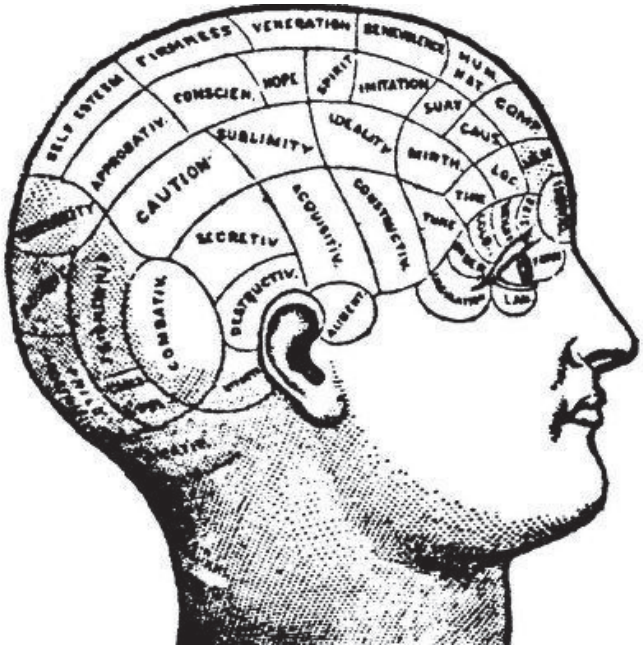
- CERVELLO: un insieme di strutture indipendenti che svolgono funzioni specifiche

- MENTE: un insieme di strutture indipendenti che svolgono funzioni specifiche

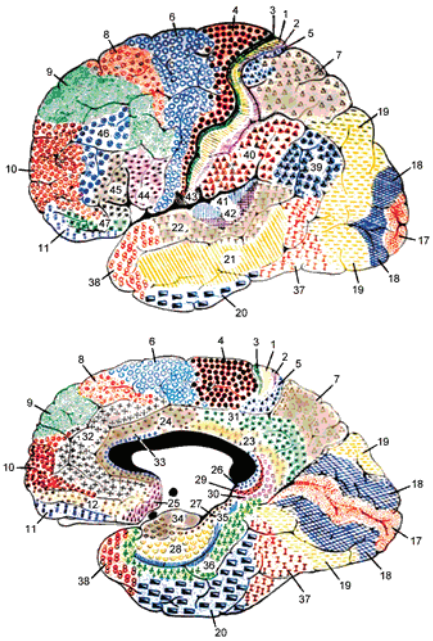
Mappa da Gall



Mappa da Gall



Mappa da Brodmann



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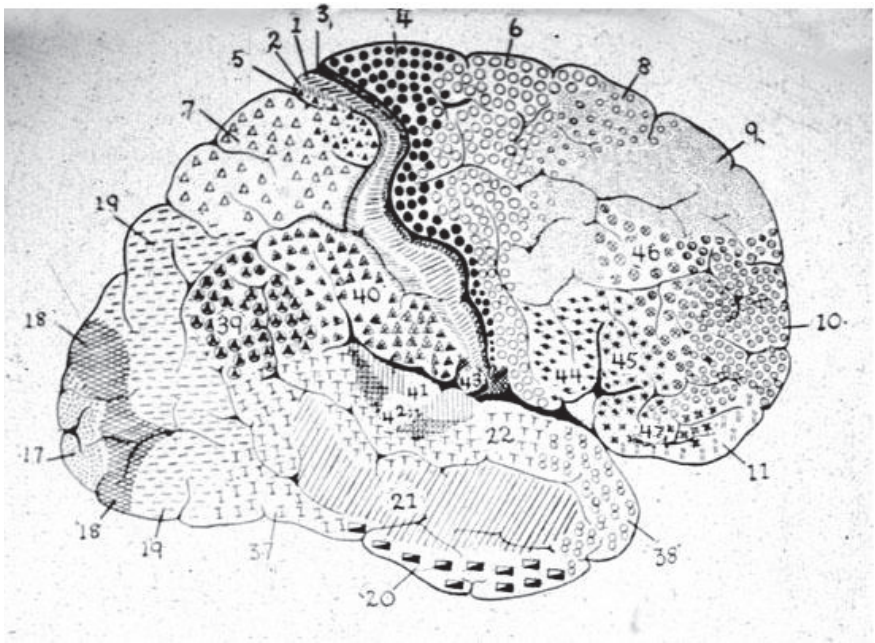

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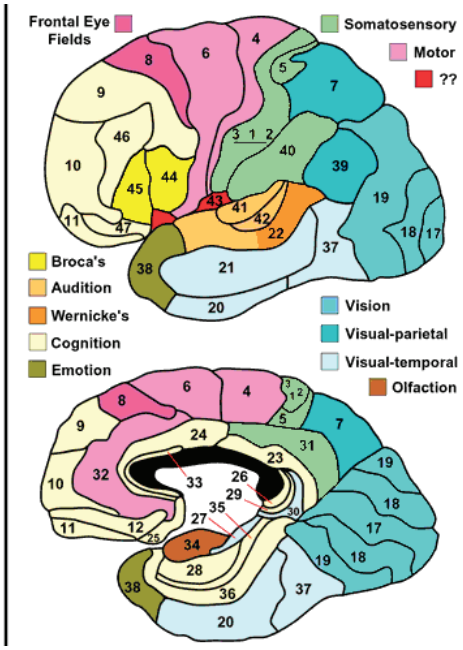


IL RITORNO DELLA MENTE

- Hick – Hyman's law (Hick, 1952; Hyman, 1953)
- Fitts' law (Fitts, 1954; ergonomia)
- Miller's law (Miller, 1956)
- Miller, Galanter e Pribram, 1960 (TOTE: psicologia ma anche ingegneria, intelligenza artificiale, cibernetica e neurolinguistica)

LA MENTE SI AFFERMA

- Neisser, 1966
- Attention & Performance II, Koster (1969)
- McClelland, 1979

IL RITORNO DEL CERVELLO

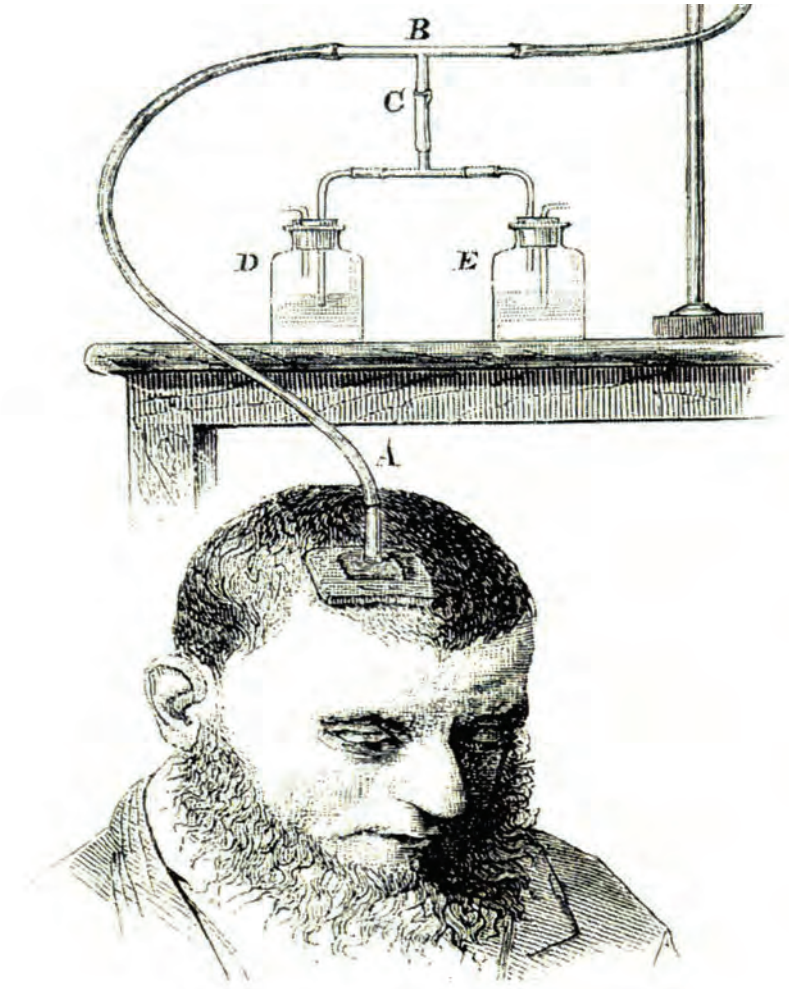
- Teuber, 1955 (doppie dissociazioni)
- Geschwind, 1965 (disconnessioni)
- Posner, 1978 (esplorazioni cronometriche della mente ma anche ERPs)

MENTE vs CERVELLO

- Caramazza, 1984
- Coltheart, 1985
- Shallice, 1988, in press

LE NEUROIMMAGINI: IL CERVELLO PREVALE?

- Posner e Reichle, 1994
- Attention & Performance XV, Umiltà e Moscovitch (1994)
- Attention & Performance XX, Kanwisher e Duncan (2004)



LE IMMAGINI DICONO QUALCOSA SULLA MENTE?

- La sottrazione cognitiva
- Senza psicologia le neuroimmagini non hanno senso

fMRI

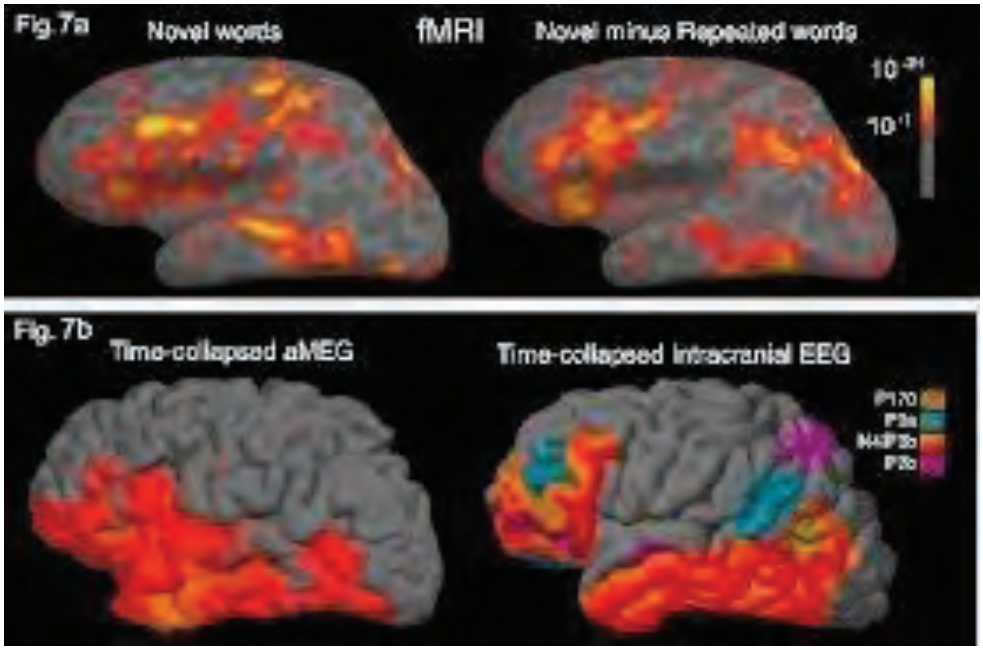
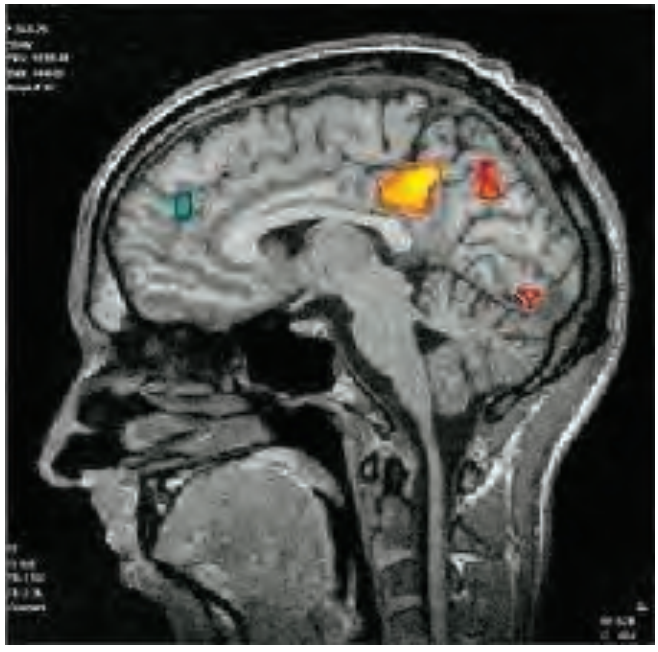
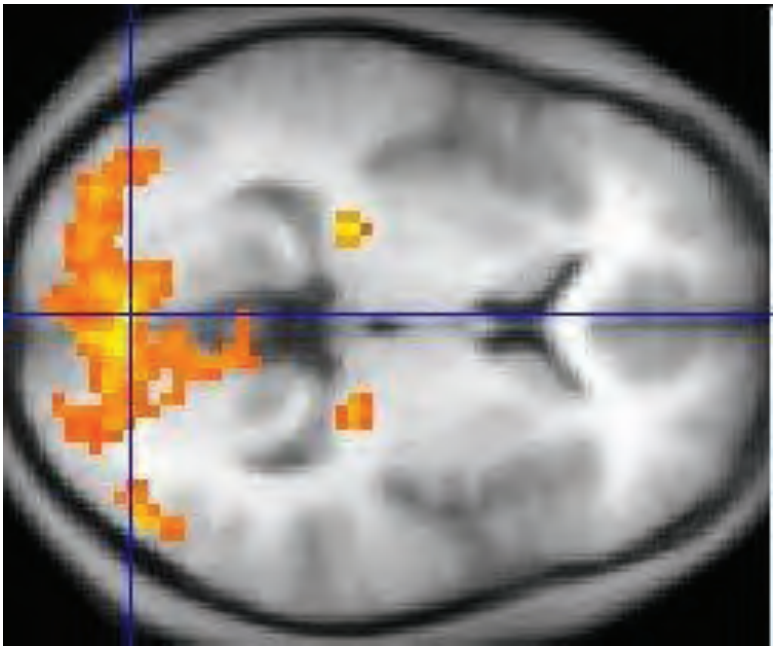


Fig. 7a
Novel words
fMRI
Novel minus Repeated words
Fig. 7b
Time-collapsed aMEG
Time-collapsed intracranial EEG

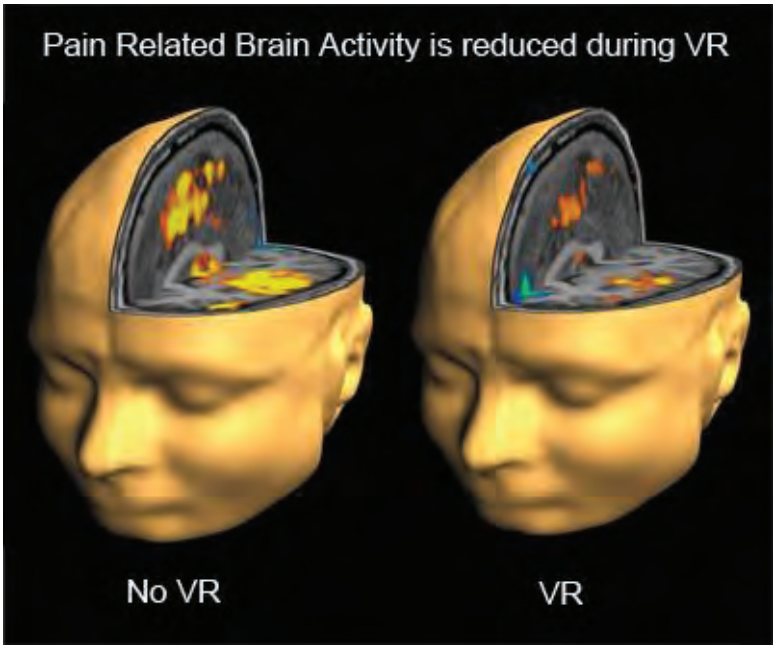
fMRI

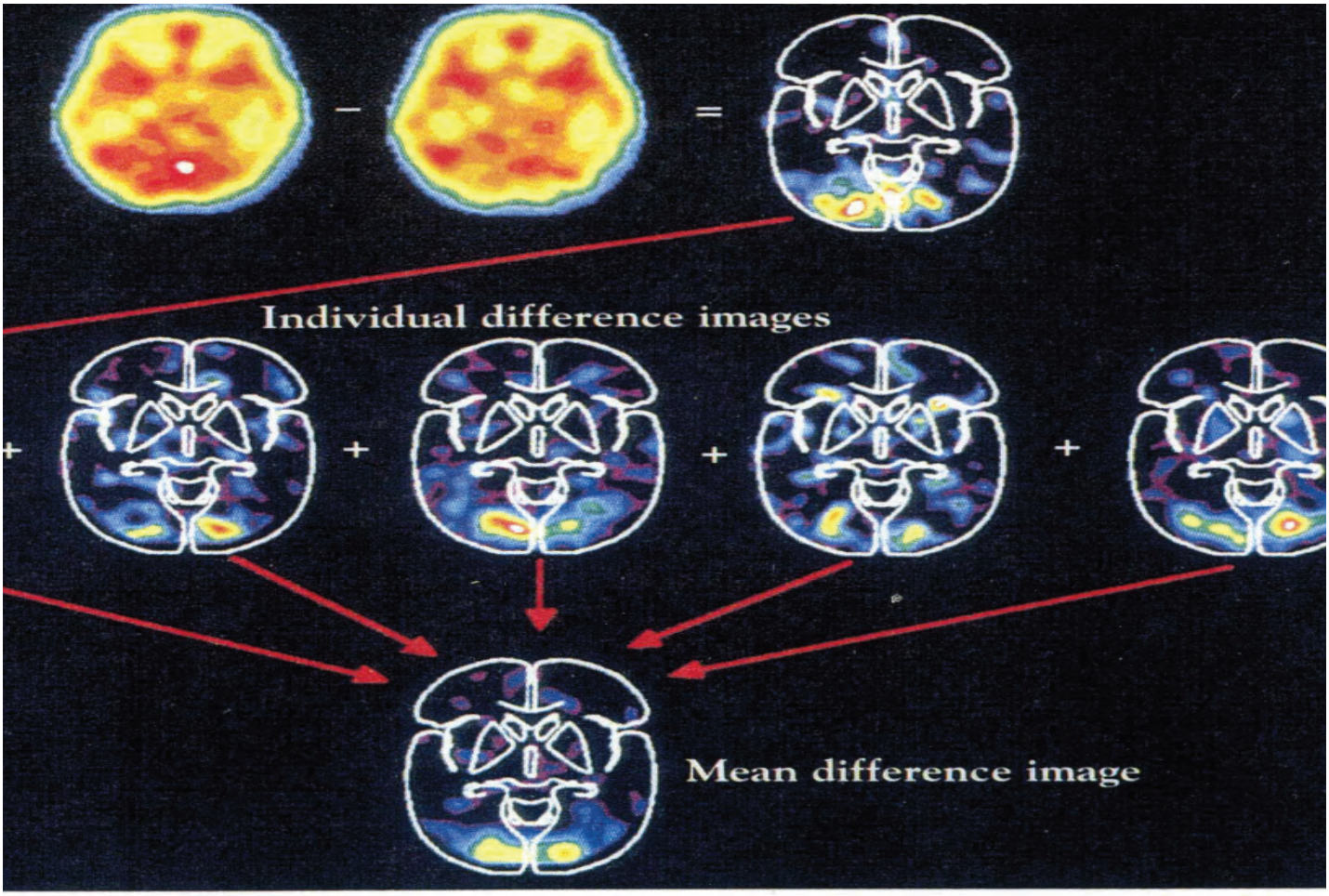


fMRI



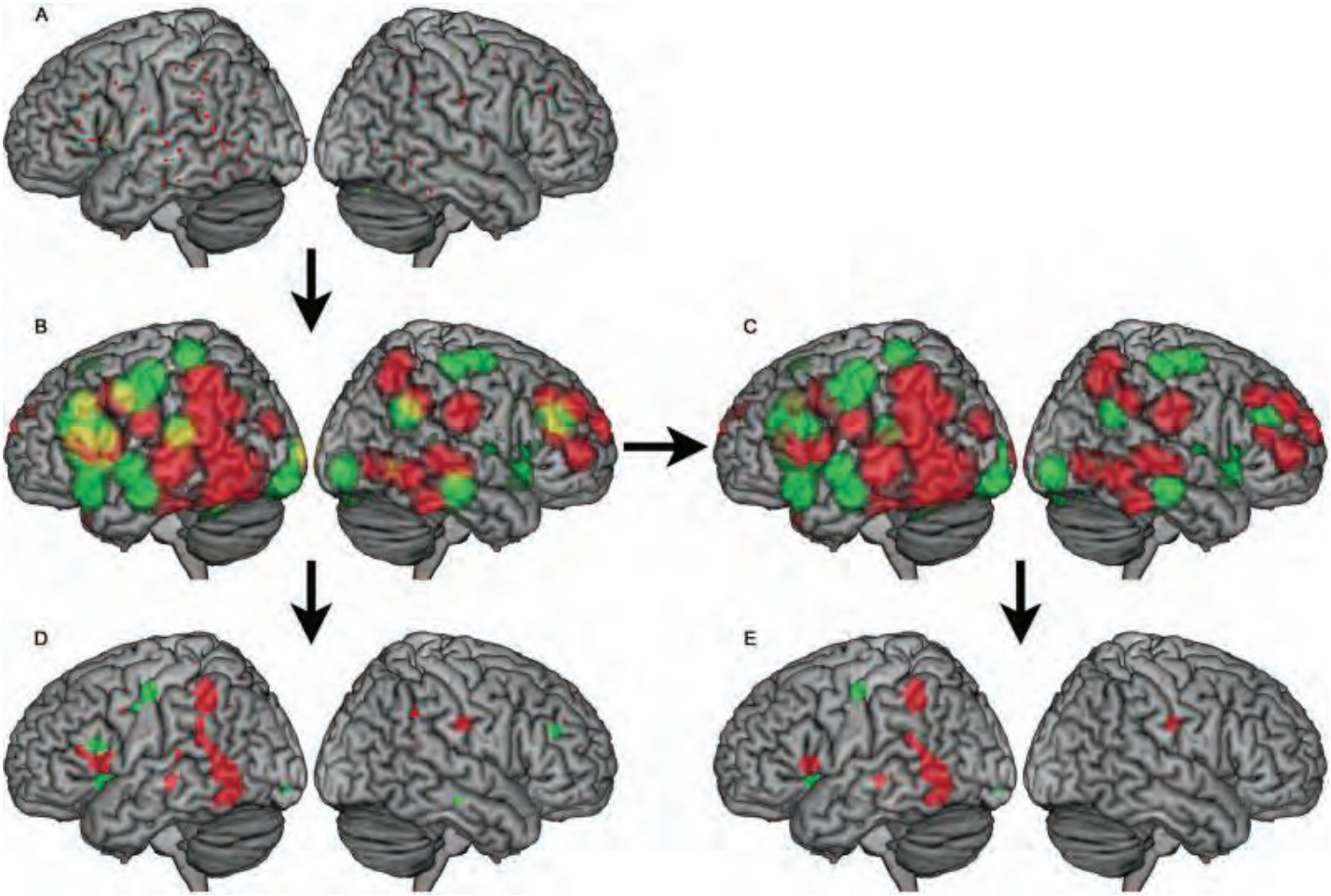
fMRI

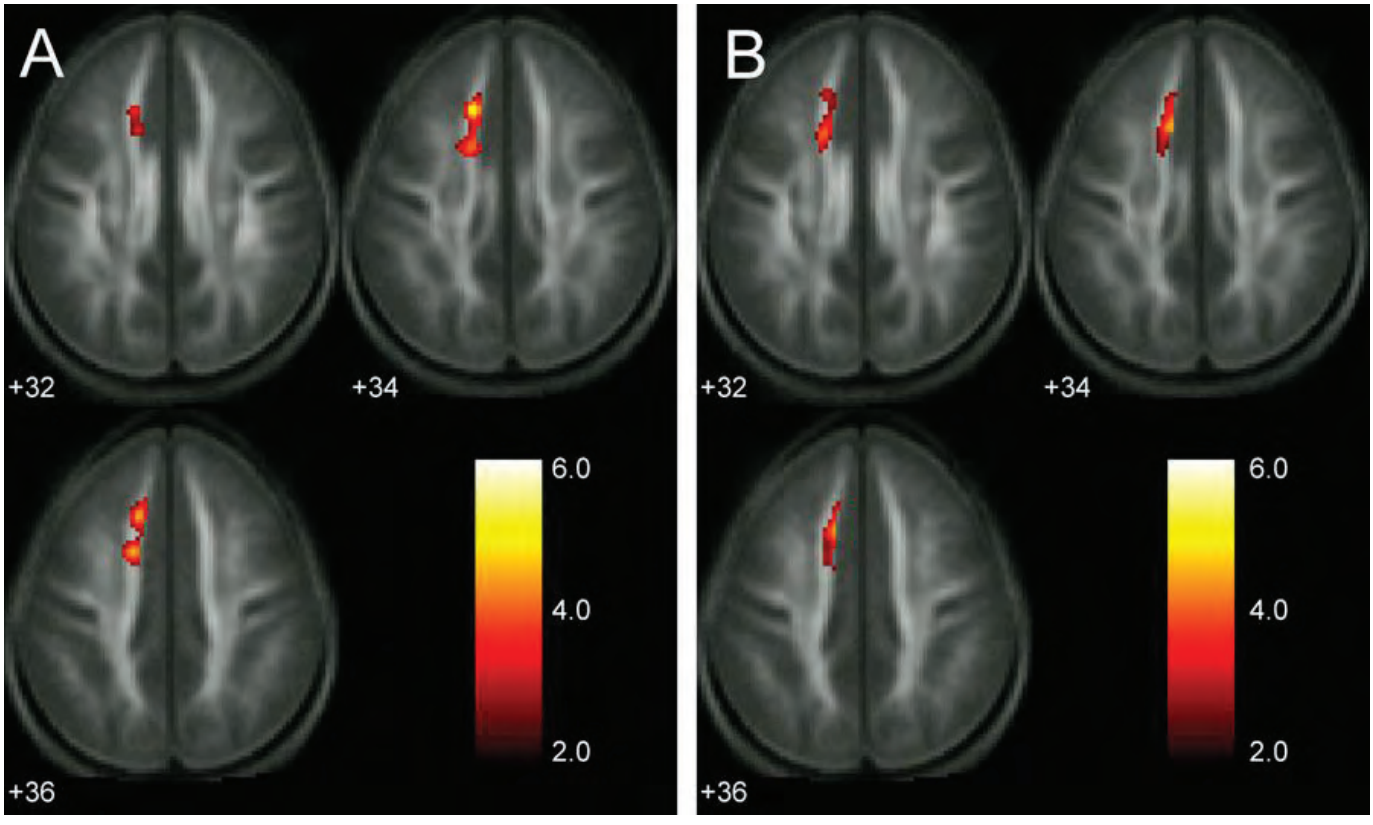


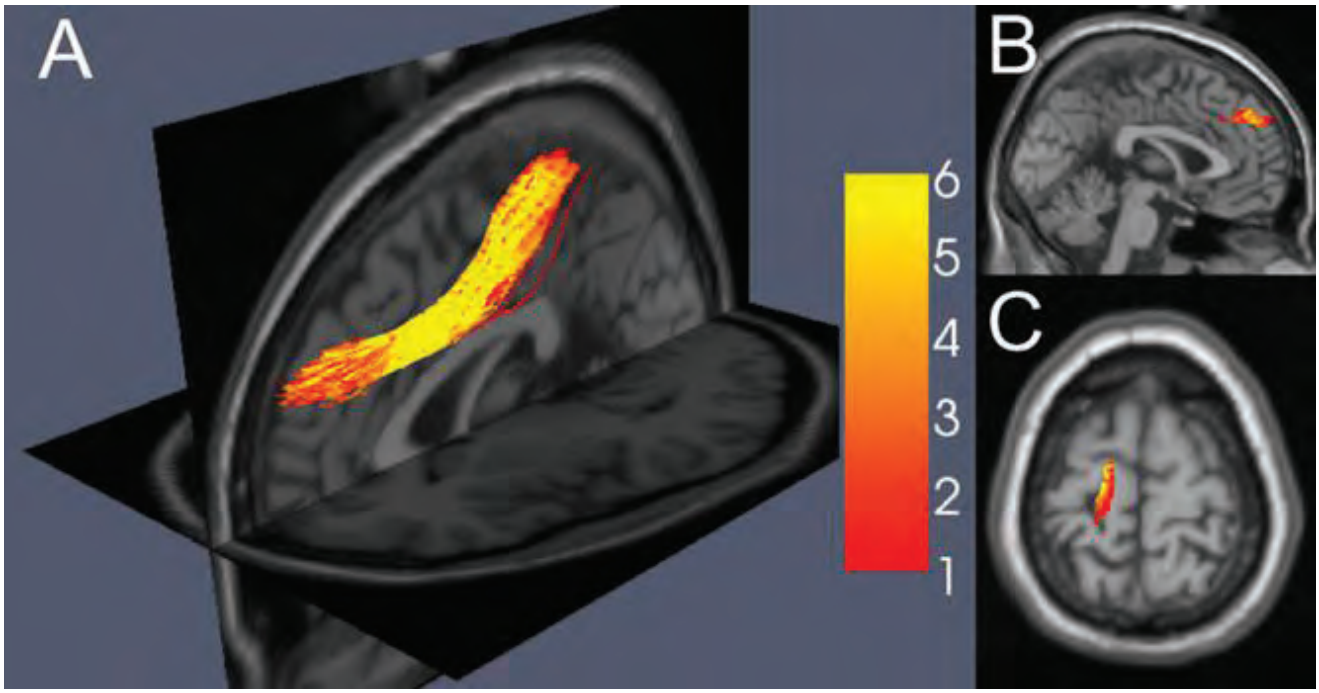


LE IMMAGINI DICONO QUALCOSA SULLA MENTE?

- LOCALIZZARE NON VUOLE DIRE SPIEGARE
- E’ necessario indagare i meccanismi
- Neuroni specchio, TMS e DTI


A
B
C
D
E


A
+32
+34
+36
6.0
4.0
2.0
B
+32
+34
+36
6.0
4.0
2.0


A
B
C
6
5
4
3
2
1

Discussion

Prof.ssa Michela Balconi

UNIVERSITA' CATTOLICA DEL SACRO CUORE - MILANO
Department of Psychology

MENTE E CERVELLO:
LA NEUROPSICOLOGIA TRA NEURMANIA E NEUROFOBIA

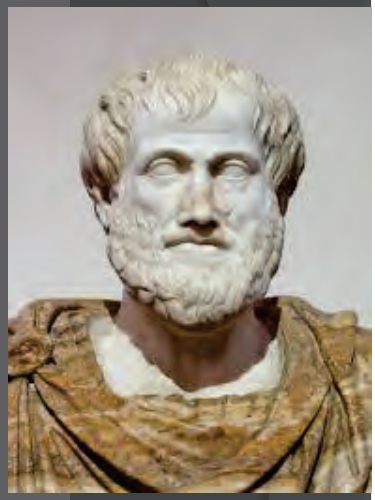
7 novembre 2014

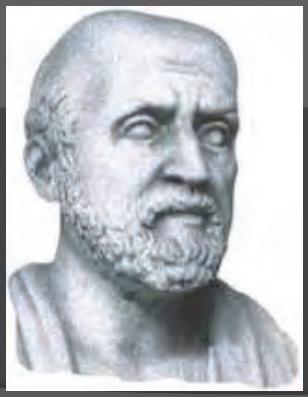
Michela Balconi

RESEARCH UNIT IN NEUROPSYCHOLOGY OF AFFECTIVE AND SOCIAL NEUROSCIENCE
FACULTY OF PSYCHOLOGY, CATHOLIC UNIVERSITY OF MILAN
www.psychoneuronet.com

Neurofobia e Neuromania
Un problema moderno?

- Aristotele
- Ippocrate Galeno Descartes





Le neuroscienze possono fare a meno delle altre discipline?

- Neuroeconomia, neuromarketing, neuroestetica, neuroteologia

Ma a cosa serve il suffisso «neuro»?

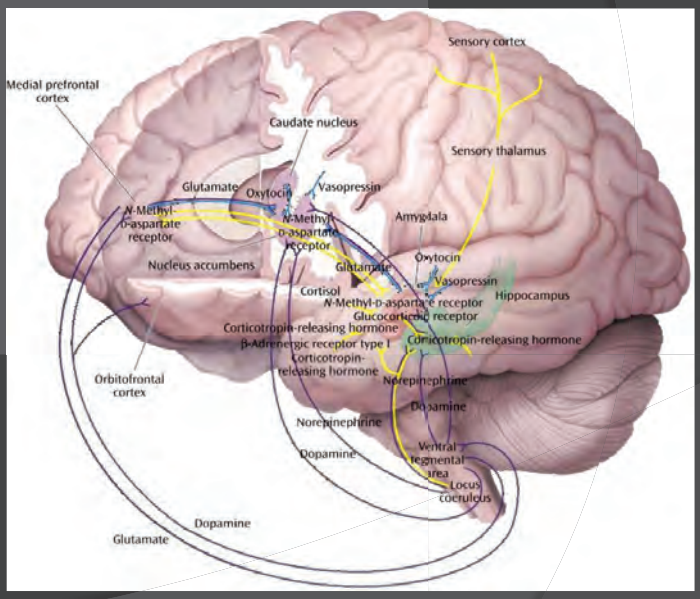
- La consapevolezza che le neuroscienze possano dirci cose importanti sul cervello e sui comportamenti può sostituire le altre discipline?

- *Il «caso» della psicologia*

Neuroscienze e decisione: i meccanismi di rewards

- vMPFC, DLPFC: executive functions and control of decisional processes (working memory), for action planning; long-term pianification and strategies

- OFC and its relatioship with ACC, amygdala, and reward mechanisms

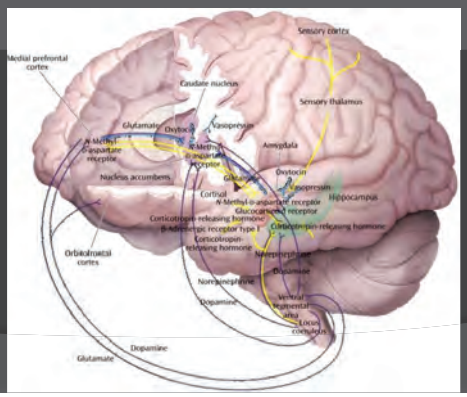


Neuroscienze e decisione: ciò che è necessario è anche sufficiente?

Ma è più difficile immaginare il comportamento empatico…

a Carlo piace il teatro ma oggi ha deciso di accontentare Lucia e andare a vedere uno spettacolo di yoga

È stato dubbioso per un po', ma poi ha deciso che è bello accontentare un'amica ogni tanto



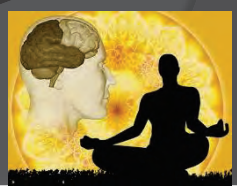
+ ?

Il cervello nell'immaginario collettivo oggi

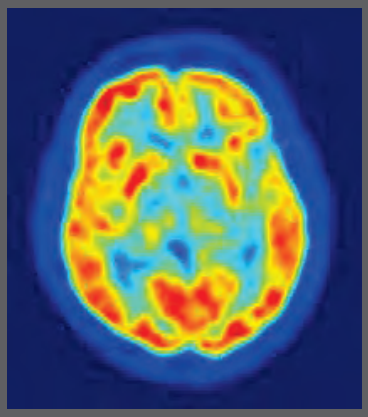
Il «neuro» è più semplice e diretto

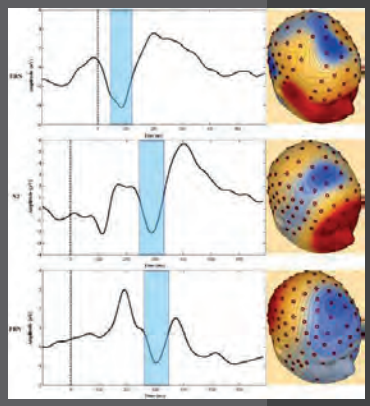
- **«Neuro-Marketing: scopri come decidono i tuoi clienti e costruisci l'esperienza di acquisto perfetta»**

- «La **neuroteologia** (termine coniato da Aldous Huxley nel suo libro *L'Isola*), detta anche **neuroscienza spirituale**, è lo studio della correlazione che esiste tra il fenomeno della percezione soggettiva di spiritualità e la funzionalità biochimica del cervello umano.»



Tutto in quel «vedere» o del bias della visione»





- Abbiamo sempre bisogno di un «dove»?
- *distribuito, connesso, plastico e dinamico: 8%* (da PubMed 2014)

La misura è valida e attendibile?

- Il problema della *correlazione* e della *causalità*
- «L'attivazione simultanea di aree specifiche e di aree generiche rappresenta un problema per le ricerche di neuroimmagine»
- Il metodo della sottrazione cognitiva
- Il problema della validità della misurazione

Le neuroscienze come principio esplicativo *de iure* o semplice ragione *de facto*?

Perché partire dal corpo per spiegare la mente e non viceversa?

- il cervello serve, non possiamo farne a meno per spiegare il funzionamento dei sistemi viventi
- ma la sua utilità non è ragione di principio ma *di fatto* per spiegare *certi* fenomeni e a *certi* livelli

«Se non avessimo la mediazione del pensiero non sapremmo chi siamo...»

- «Il cervello non spiega chi siamo»

*[io sono il mio cervello (se il cervello non spiega chi siamo, chi o cosa lo spiega?)]

- Ci sono cose del «chi siamo» che non possono essere viste?

[The White dot]

Perché «avere esperienze»?

- Le menti supportano le nostre esperienze che rimangono inevitabilmente nostre e «qualitativamente» nostre
- La voglia di gelato: «*Che le proprietà mentali sopravvengano sulle proprietà cerebrali comporta, ad esempio, che due individui possano essere in stati cerebrali diversi ma avere entrambi voglia di gelato, ma se sono nello stesso stato cerebrale sono anche nello stesso stato mentale: non è possibile che uno abbia voglia di gelato e l'altro no. La sopravvenienza è uno stato debole di identità*» (D. Marconi) da: «*Perché abbiamo bisogno dell'anima*»
- Esistono le grammatiche percettive e cognitive?
- La tentazione della biologia… non basta per spiegare il comportamento: «*conoscere la descrizione dettagliata del funzionamento di tutte le componenti con cui è stato costruito il telefono … non significa poter spiegare come funzioni il telefono*»

Perché «avere esperienze»?

- Perché guidano la nostra inguaribile tentazione di attribuire agli altri delle menti

Domande mal poste generano cattive risposte: dal «dove», al «cosa», al «come»

- Possiamo cancellare i brutti ricordi o potemmo rendere tutti i ricordi «belli»?

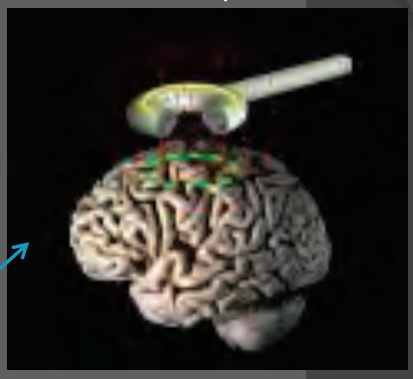
Addio brutti ricordi,
la scienza li trasforma in belli

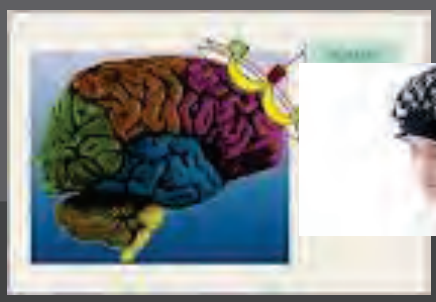
Fotografato il circuito cerebrale che controlla come i ricordi si legano a emozioni positive o negative. Lo studio pubblicato su Nature

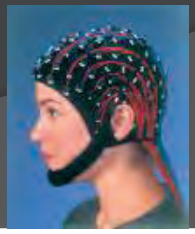
- L'optogenetica e le tecniche di neurostimolazione potrebbero aiutarci

rTMS (Transcranial Magnetic Stimulation)

TMS is a brain stimulation technique that uses very strong but very brief magnetic field to induce electrical currents in the brain. It is the only method capable of focal and non-invasive stimulation of the human brain which may be used to assess the causal role of brain regions in cognitive functions







Excitatory vs. inhibitory effect

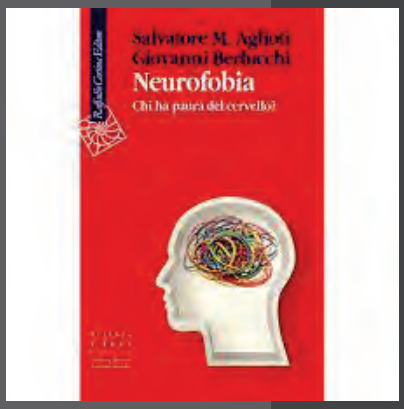
Domande mal poste generano cattive risposte: dal «dove», al «cosa», al «come»

- «Dove» stanno i ricordi?
- Non cancelliamo i ricordi, modifichiamo i processi in entrata (la codifica delle informazioni ad esempio)
- Altra cosa è modificare il processo, la natura del processo di memorizzazione (il «cosa»)
- Che tipo di «ricordi» avremmo (il «come»)
- Dal «se possibile» al «se utile»

AI «se utile» ... o dell'uso delle neuroscienze

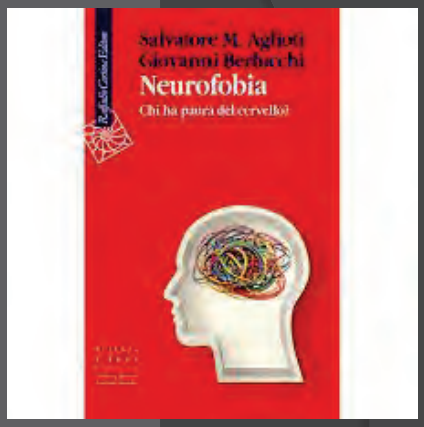
- Tutte le dimensioni umane, compresa la spiritualità, ma anche concetti classici della filosofia come, ad esempio, coscienza, libertà, volontà, intelletto, etc.... si dovrebbero arricchire e non sminuire, nell'incontro con le neuroscienze

Dove è più utile essere neuro-fobici? O della indipendenza dei saperi



- Neuro-economia
- Neuro-politica
- Neuro-teologia

Perché dobbiamo essere un po' neuromaniaci e un po' neurofobici



chi è erroneamente neurofobico di una concezione cerebrocentrica del vivere e perché?

- Chi ha scarse conoscenze
- Chi assume posizione pregiudizievoli

Chi dovrebbe essere neurofobico… «chi non conoscendo l'oggetto rischia di credere senza difese di sorta che ***per spiegare occorre vedere o ricondurre tutto a causalità lineari o visibili»***

E poi c'è l'anima...perché ne abbiamo bisogno?

«abbiamo percorso un lungo cammino per cercare di eliminare la mente, frantumandola nelle sue basi biologiche.

E, alla fine di questo percorso, abbiamo scoperto che spontaneamente moltiplichiamo le menti presenti nel mondo esterno»

E poi c'è l'anima...perché ne abbiamo bisogno?

- Non è stato un atto intenzionale questo «frantumare» ma il risultato di un processo quasi spontaneo che coinvolge individui, gruppi, contesti sociali

- È tipico delle misure nuove e potenti sul piano esplicativo, come lo sono le neuroscienze

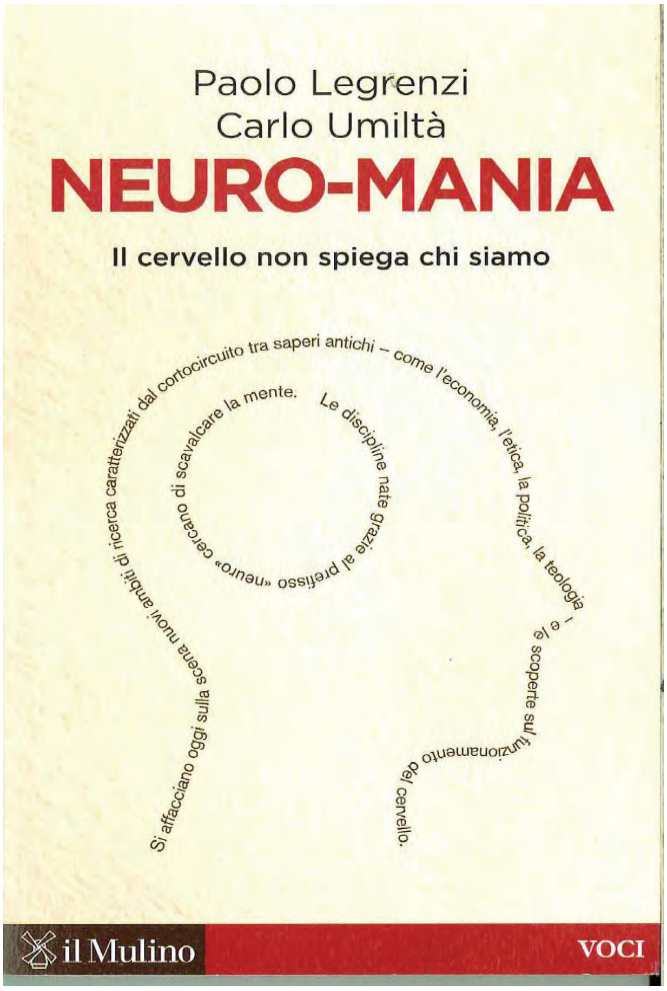
Per concludere: cervello e mente

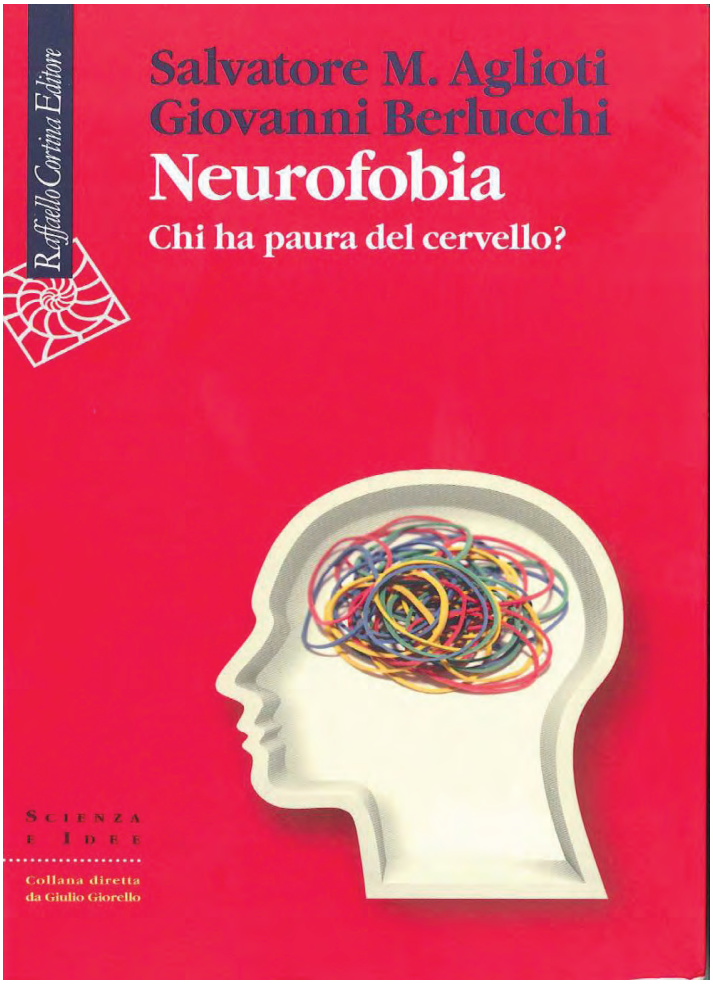
«In definitiva il dualismo ci permette di ridurre l'incertezza di origine sociale, rendendo più prevedibile il comportamento, nostro e altrui. Il dualismo è vantaggioso. Però può essere anche molto pericoloso. È bene quindi capire come funziona, e, soprattutto, come va maneggiato. Meglio questo che aspettare che il riduzionismo riesca a spazzare via definitivamente questa illusione presente nella nostre psicologia quotidiana. Ma ci riuscirà mai? E se sì, come farà?»

Si può andare oltre il dualismo senza cadere nel riduzionismo?

NEUROFOBIA

Prof. Giovanni Berlucchi





Avvenire
Quotidiano
Data 19-11-2013
Pagina 21
Foglio 1

NEUROSCIENZE: NÉ MANIA NÉ FOBIA MA PIÙ UMILTÀ

ANDREA LAVAZZA

La scena, se vera, è comica e triste insieme. Il filosofo (anonimo), nel bel mezzo di

filosofo nevrastenico incontrato da Churchland, prendersela col chilo e mezzo di materia umida che ciascuno ha dentro il cranio. Diverso è discutere dati o teorie (tra l'altro le conoscenze evolvono rapidamente, un elemento forse poco considerato). O contestare alcune estrapolazioni dai dati compiute dai neuroscienziati. Per esempio, l'affermazione del materialismo riduzionistico, la negazione del libero arbitrio, il

SIR CHARLES SCOTT SHERRINGTON

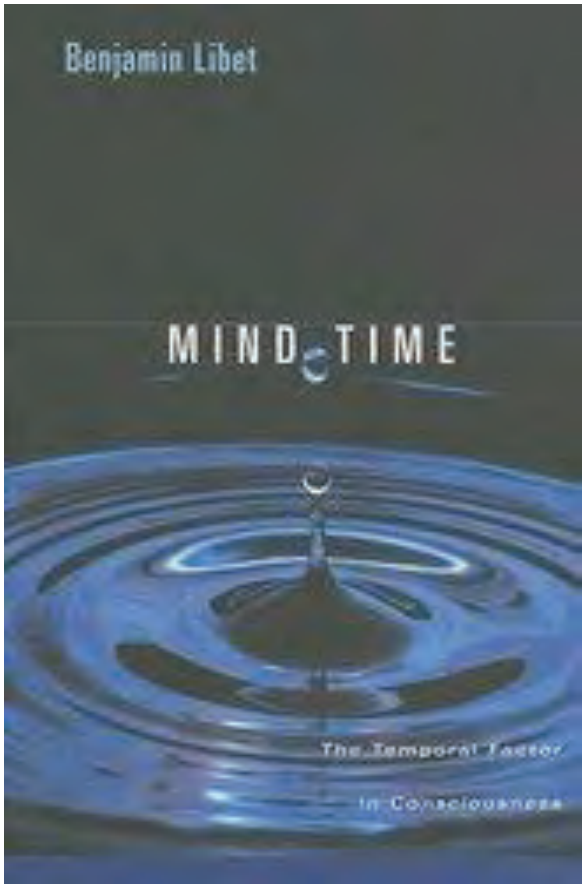
That our being should consist of two fundamental elements offers I suppose no grater inherent improbability than that it should rest on one only.

Charles S.Sherrington, Prefazione all'edizione del 1947 di Integrative Acton of the Nervous System

LA NEUROLOGIE CHERCHE À COMPRENDRE L'HOMME LUI-MÊME

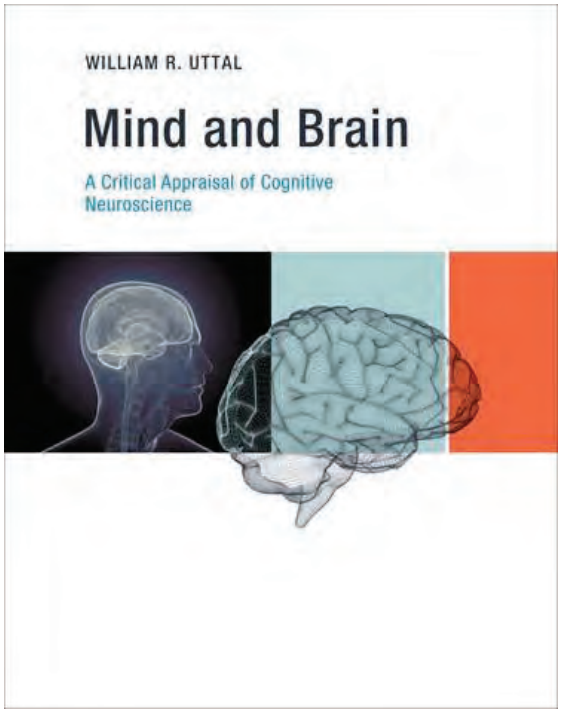
THE PROBLEM OF NEUROLOGY IS TO UNDERSTAND MAN HIMSELF

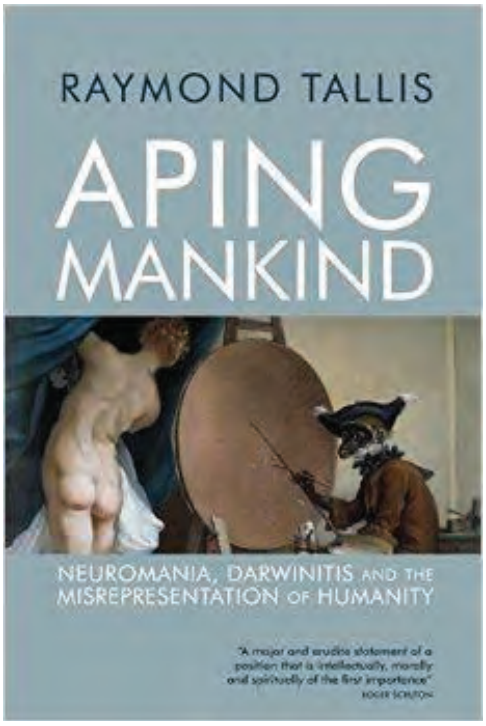
WILDER PENFIELD 1891-1976



Personal identity = mental identity
Mental identity = cerebral identity;
Ergo: personal identity = cerebral identity;
Ergo: I am my brain
"*Where goes a brain, there goes a person*"
(Roland Puccetti, Brain transplantation and personal identity, Analysis, 30: 65-77, 1969)

"You're certainly a lot less fun since the operation."

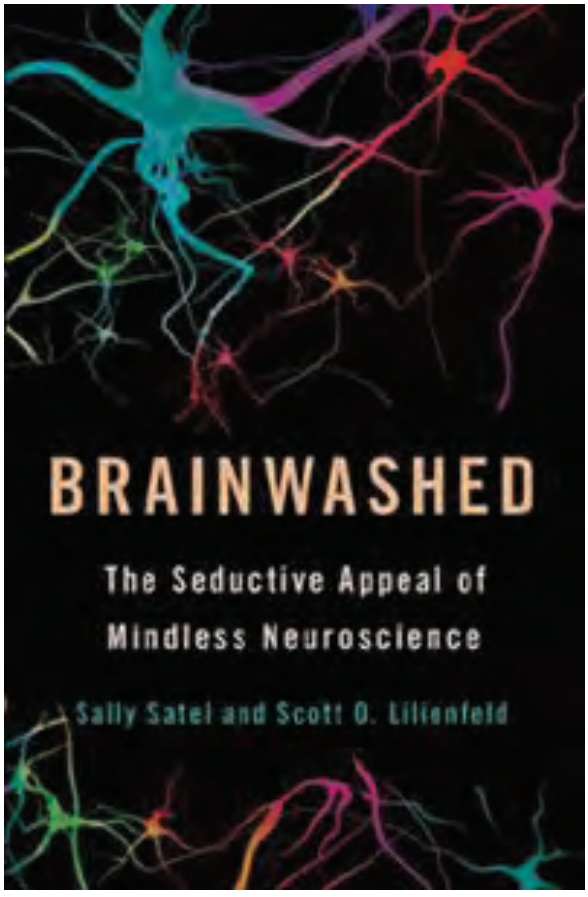


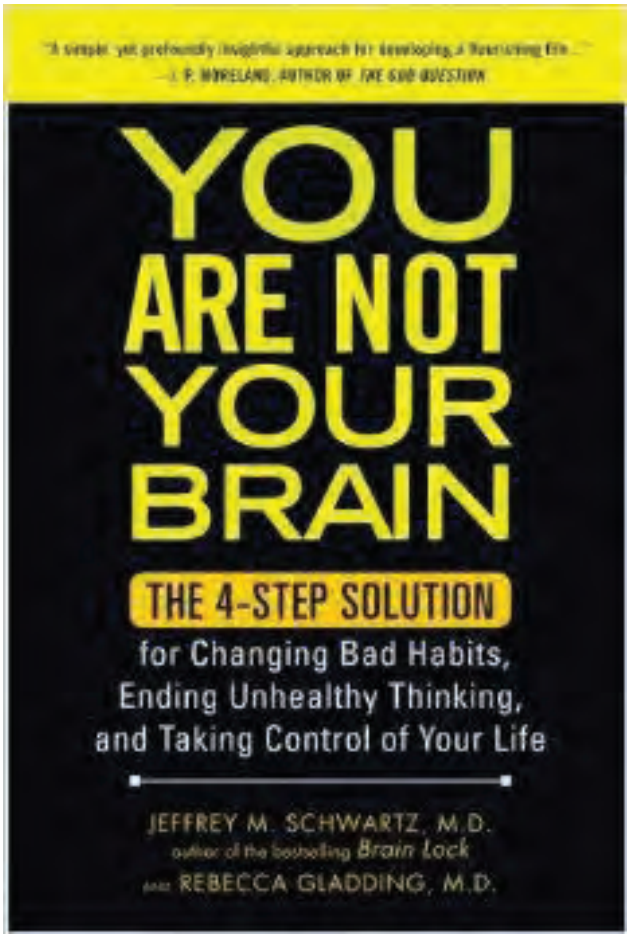


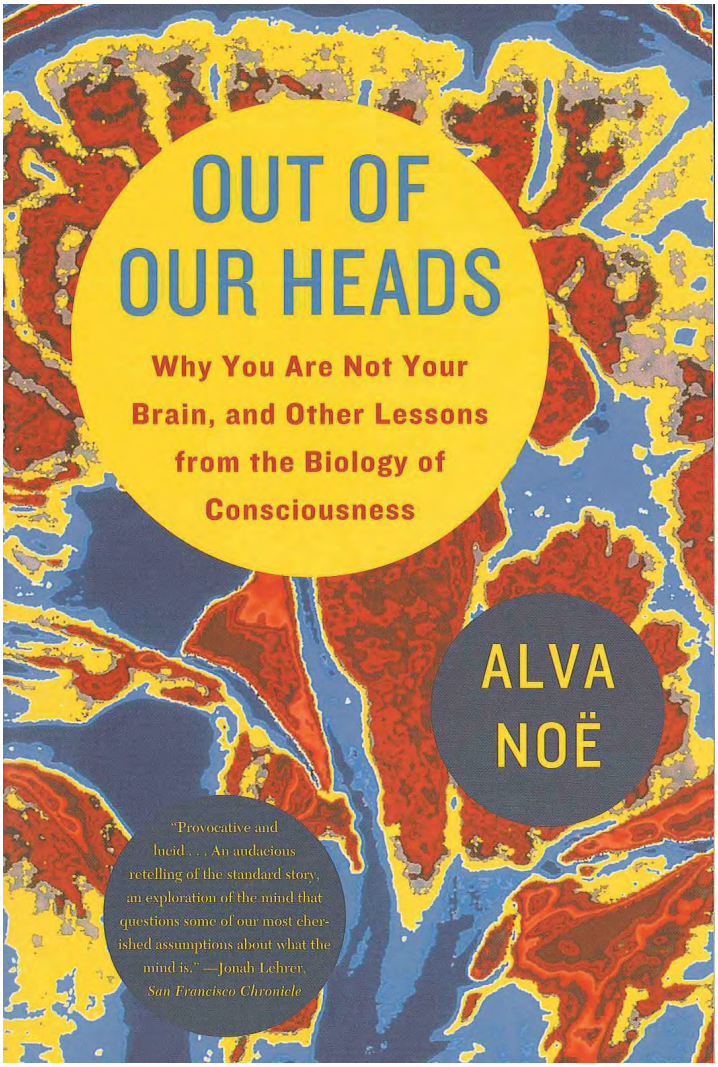
http://profzeki.blogspot.it/2013/04/neurophobes-and-their-neurophobia.html

Saturday, April 6, 2013
Neurophobes and their neurophobia

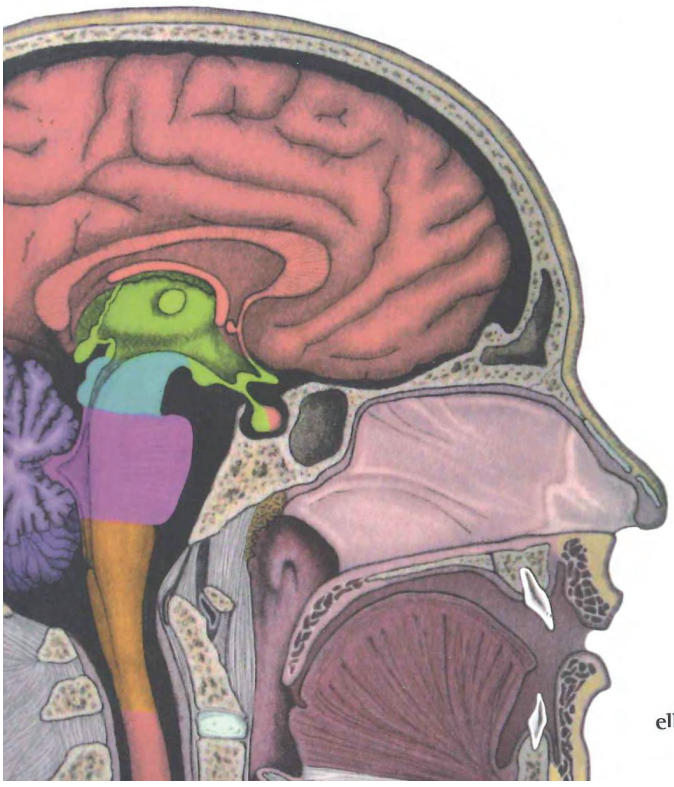
I describe briefly a new and hitherto undocumented phobia, which I shall name *neurophobia* and those who display it as *neurophobes*. It is a somewhat new phobia, perhaps no more than 15 years old but it shares characteristics with other phobias. It is to be distinguished from the neurophobia that medical students apparently suffer from when studying neurology.



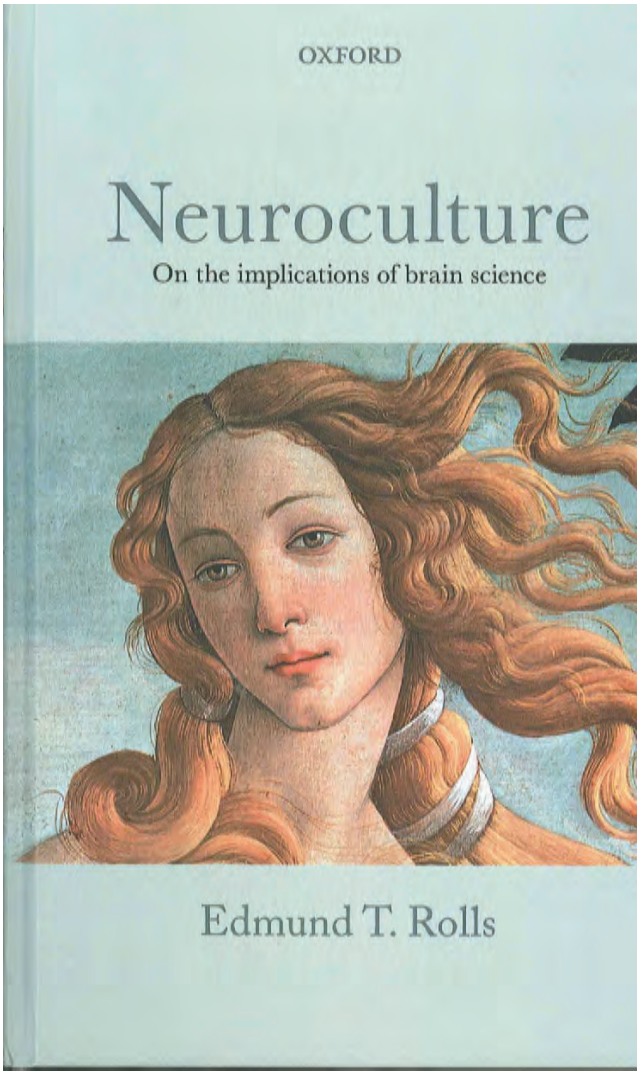


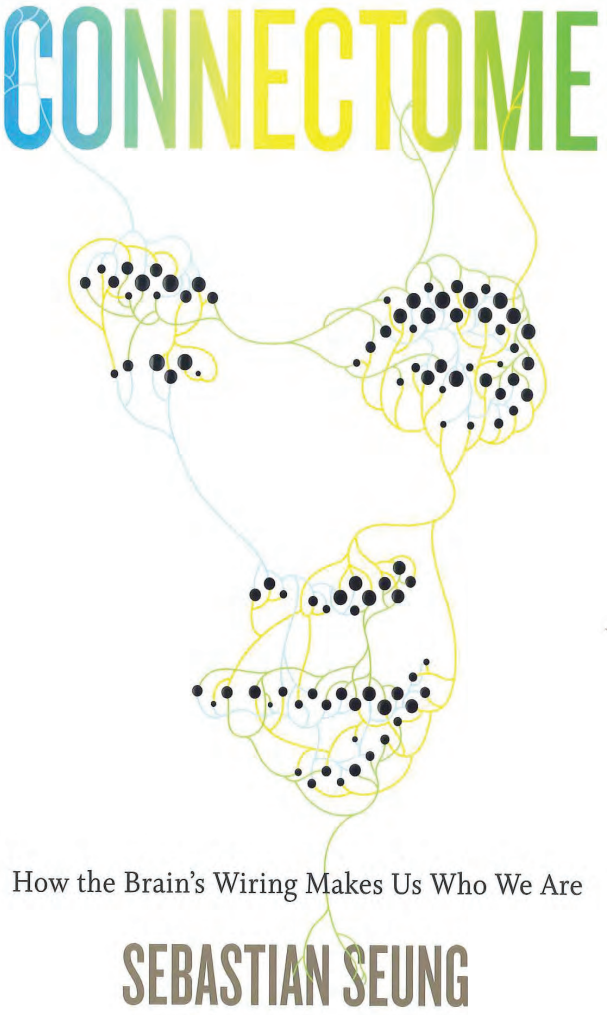


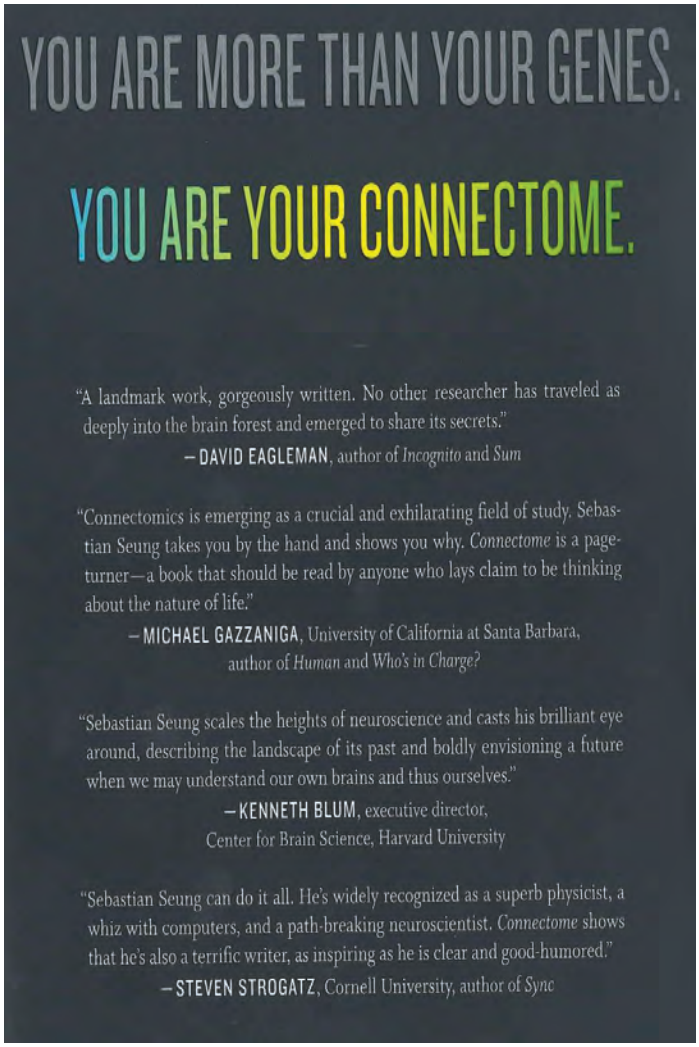
DICK SWAAB
NOI SIAMO IL NOSTRO CERVELLO
COME PENSIAMO, SOFFRIAMO E AMIAMO



elliot







Il neurovocabolario

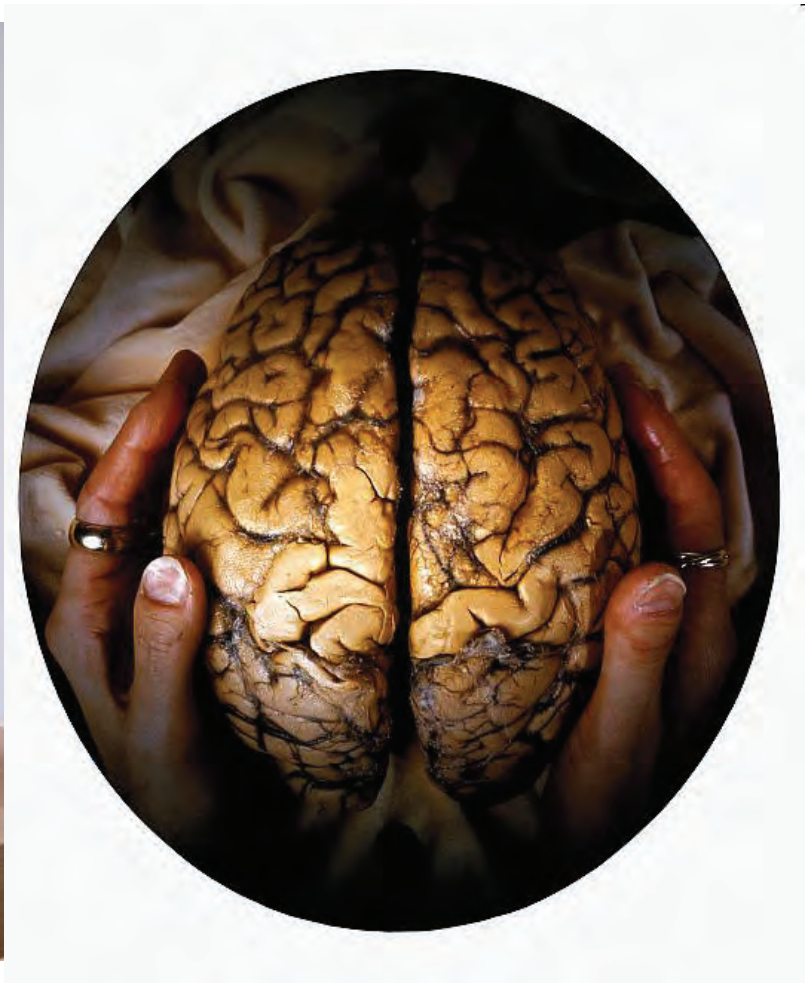
Neuroscienze
Neuroaffettività
Neurosocialità
Neurorazionalità
Neurofilosofia
Neuroestetica
Neuroeconomia
Neuromarketing
Neuroetica
Neuropsichiatria
Neuroreligione
Neuroteologia
Neuropolitica
Neurocultura

Neuromitologia
Neurospazzatura
Neuroballe
Neurobubbole
Neurobufale
Neurofrottole
Neuromania
Neurofilia

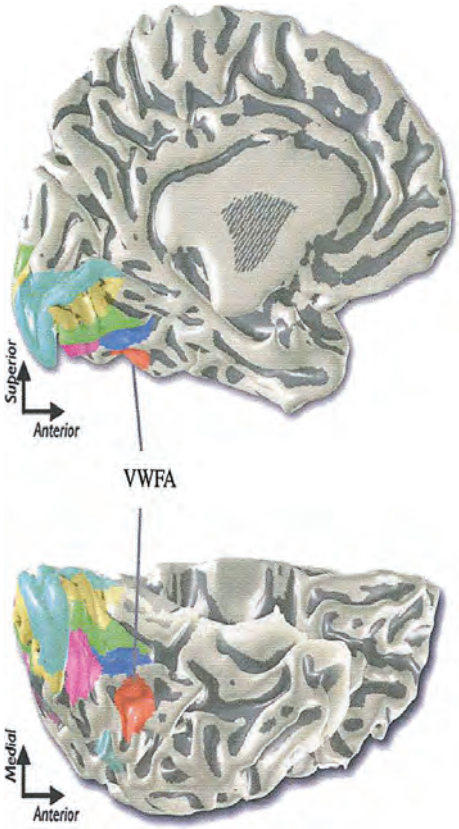
Neurodeliri
Neuroosteria

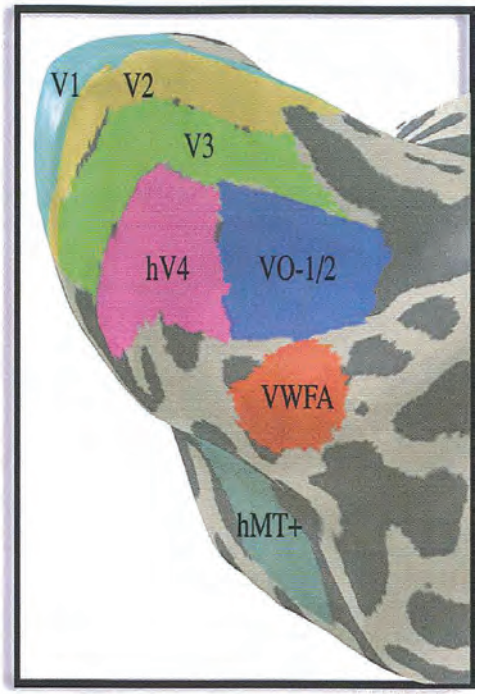
Neurofobia?

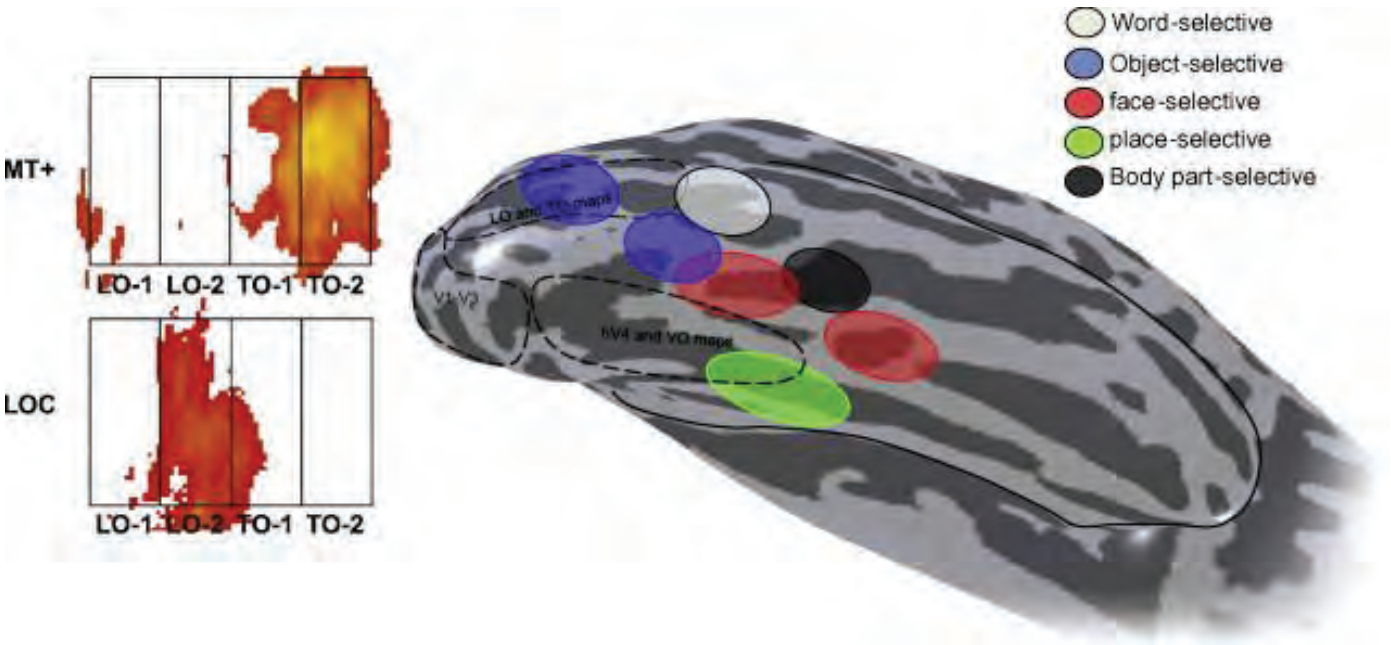
Jan Fabre – Alla guida del mio cervello

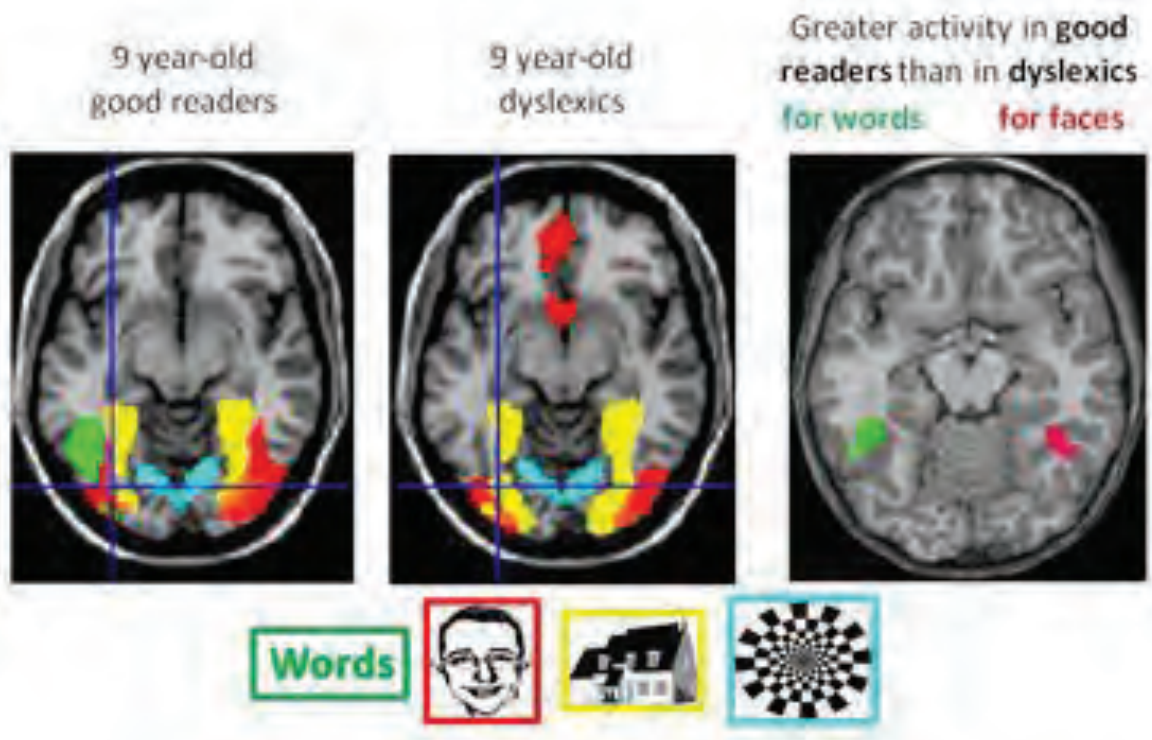


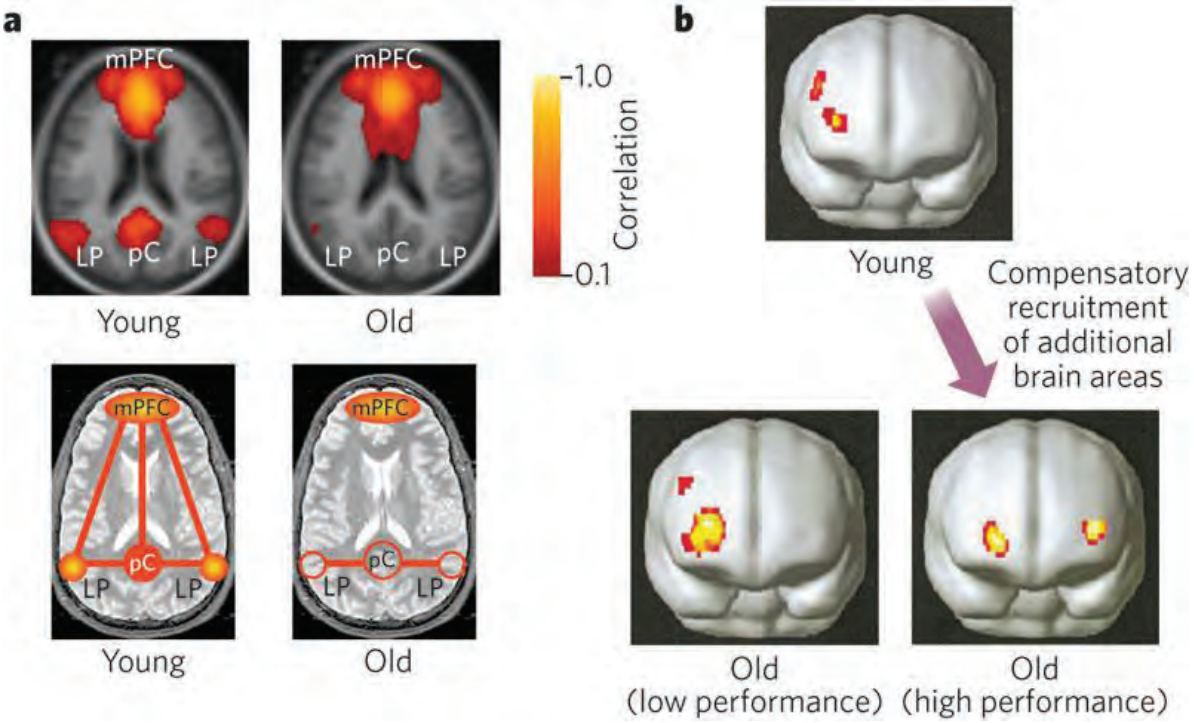
Helen Chadwick - Autoritratto



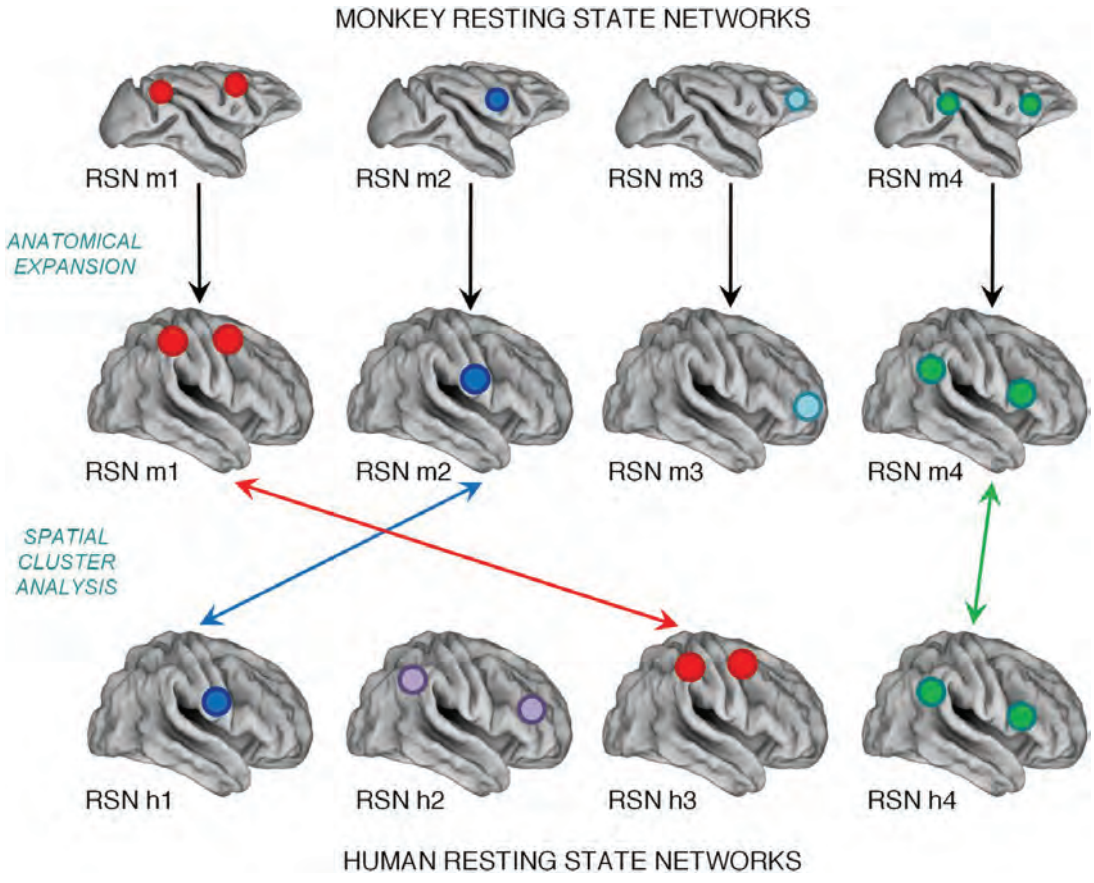



MT+
LO-1 LO-2 TO-1 TO-2
LOC
LO-1 LO-2 TO-1 TO-2
Word-selective
Object-selective
face-selective
place-selective
Body part-selective
V1-V3
hV4 and VO maps

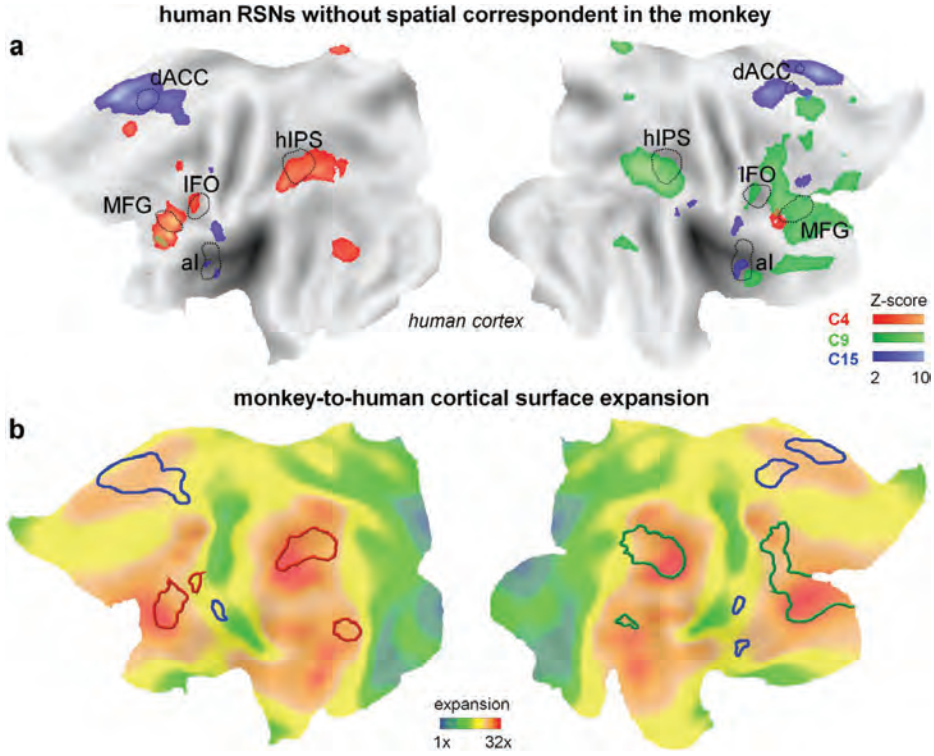

9 year-old good readers
9 year-old dyslexics
Greater activity in good readers than in dyslexics
for words
for faces
Words

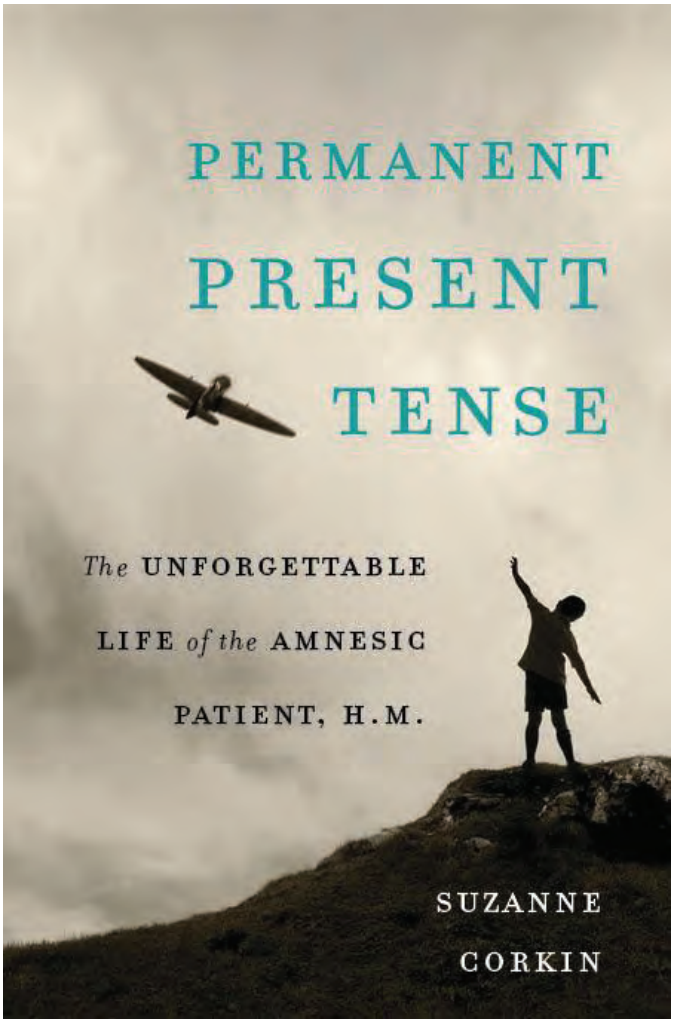


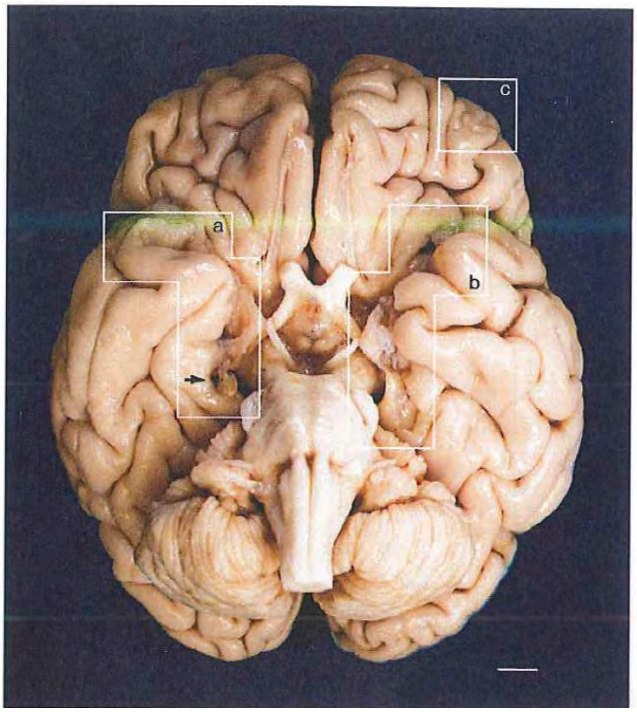
Nature, vol.464, p.529, 2010



Evolutionarily Novel Functional Networks in the Human Brain?
D Mantini, M Corbetta, G L Romani et a., The Journal of Neuroscience, February 20, 2013







ARTICLE

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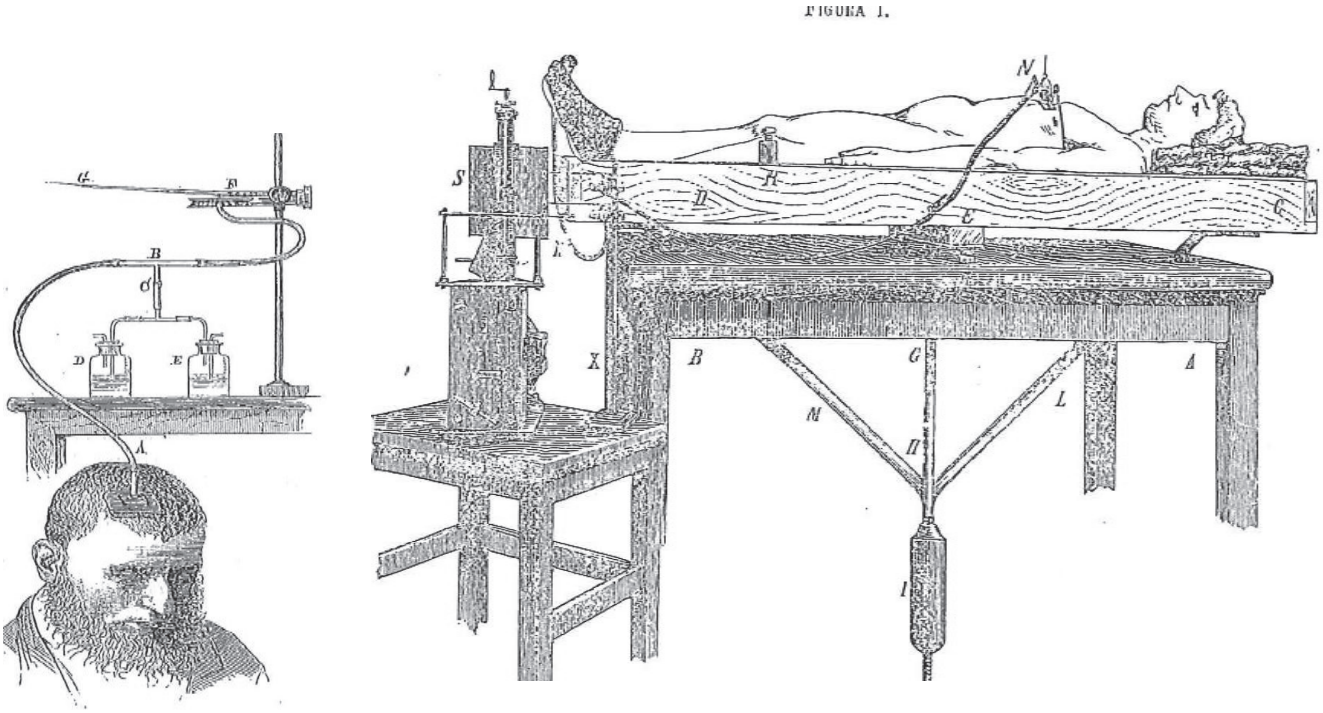
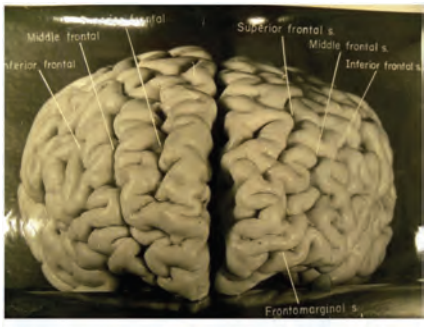
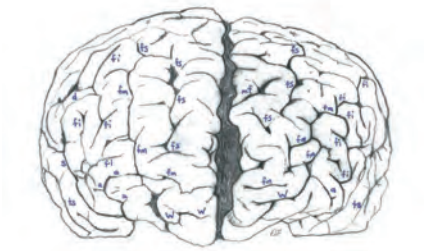
DOI: 10.1038/ncomms4122 OPEN

Postmortem examination of patient H.M.'s brain based on histological sectioning and digital 3D reconstruction

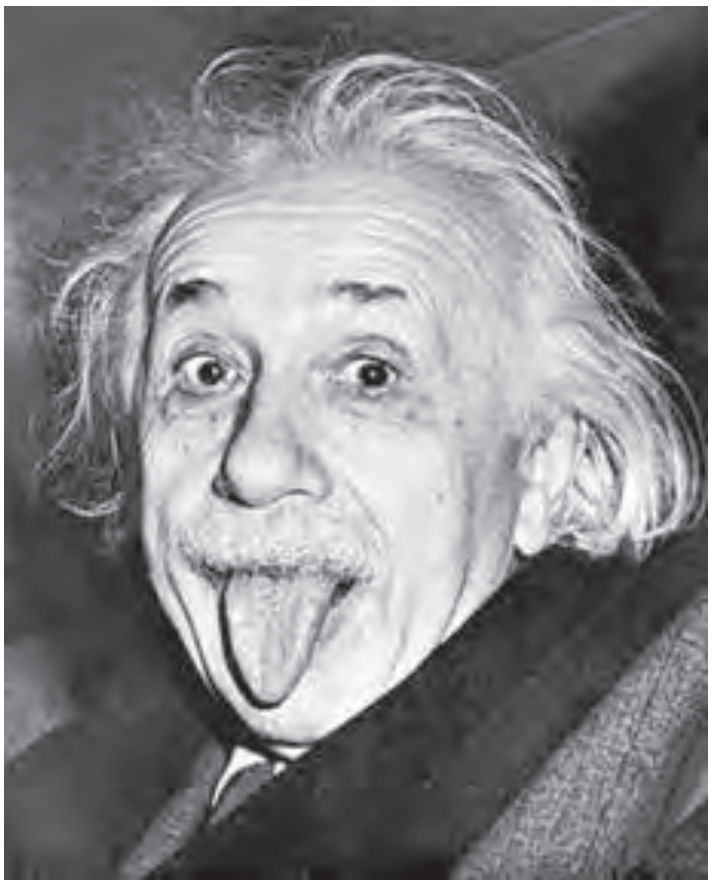
Jacopo Annese[1,2], Natalie M. Schenker-Ahmed[1,2], Hauke Bartsch[1,2], Paul Maechler[1,2], Colleen Sheh[1,2], Natasha Thomas[1,*], Junya Kayano[1,*], Alexander Ghetan[1,*], Noah Bresler[1], Matthew P. Frosch[3], Ruth Klaming[1,2] & Suzanne Corkin[4]



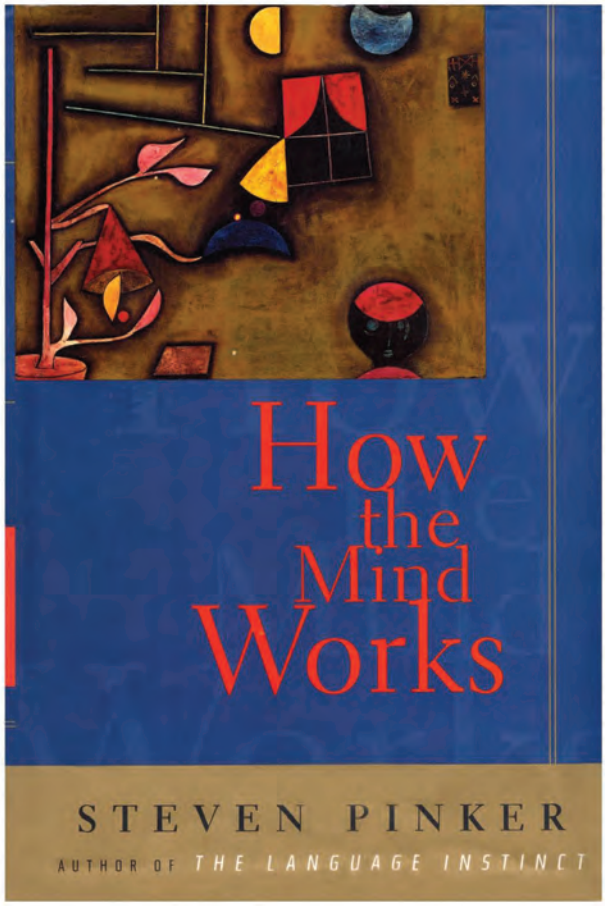


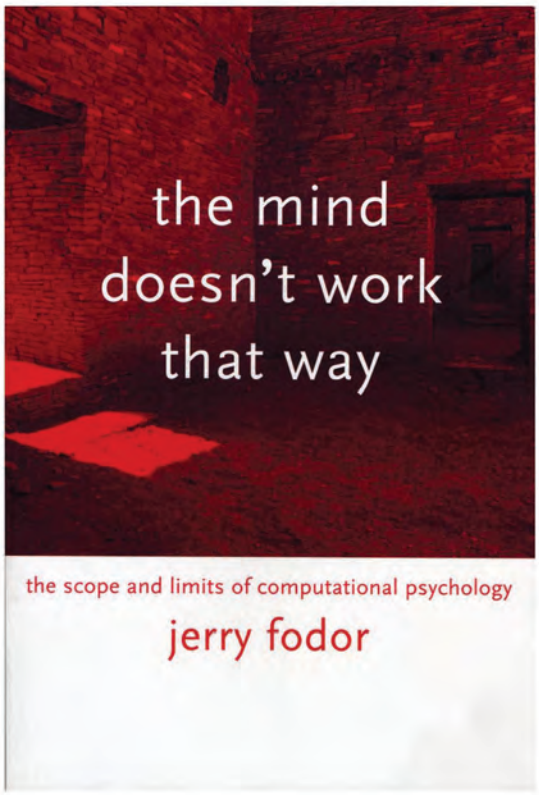


The cerebral cortex of Albert Einstein: a description and preliminary analysis of unpublished photographs
Dean Falk, Frederick E. Lepore and Adrianne Noe
Brain 2013: 136; 1304–1327



Le fotografie suggeriscono che le rappresentazioni della faccia e della lingua nelle cortecce somatosensitive e motorie sono espanse nell’emisfero sinistro





It isn't, after all, seriously in doubt that talking (or riding a bicycle, or building a bridge) depends on things that go on in the brain somewhere or other. If the mind happens in space at all, it happens somewhere north of the neck. What exactly turns on knowing how far north? It belongs to understanding how the engine in your auto works that the functioning of its carburettor is to aerate the petrol; that's part of the story about how the engine's parts contribute to its running right. But why (unless you're thinking of having it taken out) does it matter where in the engine the carburettor is? What part of how your engine works have you failed to understand if you don't know that?

Jerry Fodor, London Review of Books, 30 September 1999

To hold the weaker thesis that knowledge of the brain is merely necessary for knowledge of the mind is consistent even with being a heavy-duty Cartesian dualist, since even such a dualist accepts that mind depends causally on brain. (Colin McGinn)

Experimental Philosophy

Joshua Knobe,[1,2] Wesley Buckwalter,[3] Shaun Nichols,[4] Philip Robbins,[5] Hagop Sarkissian,[6] and Tamler Sommers[7]

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0066-4308/12/0110-0081$20.00

Keywords

moral psychology, moral relativism, free will, consciousness, causation

Abstract

Experimental philosophy is a new interdisciplinary field that uses methods normally associated with psychology to investigate questions normally associated with philosophy. The present review focuses on research in experimental philosophy on four central questions. First, why is it that people's moral judgments appear to influence their intuitions about seemingly nonmoral questions? Second, do people think that moral questions have objective answers, or do they see morality as fundamentally relative? Third, do people believe in free will, and do they see free will as compatible with determinism? Fourth, how do people determine whether an entity is conscious?

Dualism Persists in the Science of Mind

Athena Demertzi,[a] Charlene Liew,[b] Didier Ledoux,[a] Marie-Aurélie Bruno,[a] Michael Sharpe,[c] Steven Laureys,[a] and Adam Zeman[d]

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[b]*Department of Clinical Neurosciences, Western General Hospital, Edinburgh, UK*

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[d]*Peninsula Medical School, Exeter, UK*

Circa i due terzi di 250 studenti dell'Università di Edinburgo erano convinti che 1) mente e cervello siano due entità separate, 2) la natura fondamentale della mente non sia fisica, 3) ciascuno di noi abbia un'anima separata dal corpo, e 4) qualcosa di noi sopravviva alla morte. In un sondaggio effettuato a Liegi in Belgio con lo stesso questionario su un campione più numeroso (N=1858), includente medici e paramedici di varie età, poco meno del 40% degli intervistati affermava la separazione fra mente e cervello, il 38% circa credeva ad una persistenza spirituale dopo la morte, il 55% dei medici e il 63% dei paramedici negava la natura fisica della mente, e la credenza nel possesso di un'anima separata dal corpo era sottoscritta dal 36% dei medici e dal 44% dei paramedici. Il 55% dei medici e il 51% dei paramedici si dichiaravano religiosi.

studio inglese

Vita oltre la morte: i dati di uno studio su migliaia di persone

L'Università di Southampton ha condotto una ricerca su 2mila pazienti colpiti da arresto cardiaco per indagare il livello di consapevolezza delle persone clinicamente decedute

di Emanuela Di Pasqua

La possibilità che la vita si estenda oltre l'ultimo respiro è una materia che è stata trattata ampiamente, spesso giudicata con aperto scetticismo. Le esperienze riportate dalle persone così fortunate da poterle raccontare sono state generalmente spiegate come allucinazioni dovute alla grave condizione psicofisica. È di questi giorni però la pubblicazione di uno studio inglese che comproverebbe il mantenimento di un certo grado di coscienza da parte di persone in arresto cardiaco.

"C'è una forma di consapevolezza dopo la morte"

Gli scienziati britannici hanno analizzato migliaia casi di arresto cardiaco: il 40% dei sopravvissuti avevano "ricordi" nei minuti in cui erano clinicamente morti

LONDRA - Da sempre si cerca la prova della vita oltre la morte. L'Università di Southampton ha affrontato in modo scientifico questa possibilità scoprendo che una qualche forma di "consapevolezza" può continuare anche dopo che il cervello ha cessato di funzionare del tutto. Si tratta di una teoria controversa che fino ad ora ha sollevato molto scetticismo, ricorda il *Daily Telegraph*. Ma gli scienziati inglesi hanno passato gli ultimi quattro anni esaminando più di 2000 casi di persone che avevano sofferto un arresto cardiaco in 15 ospedali in Gran Bretagna, Usa e Austria, e ottenuto risultati molto interessanti.

G Model
RESUS-6129; No. of Pages 7

Contents lists available at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Clinical Paper

AWARE—AWAreness during REsuscitation—A prospective study☆

Sam Parnia[a,*], Ken Spearpoint[b], Gabriele de Vos[c], Peter Fenwick[d], Diana Goldberg[a], Jie Yang[a], Jiawen Zhu[a], Katie Baker[d], Hayley Killingback[e], Paula McLean[f], Melanie Wood[f], A. Maziar Zafari[g], Neal Dickert[g], Roland Beisteiner[h], Fritz Sterz[h], Michael Berger[h], Celia Warlow[i], Siobhan Bullock[i], Salli Lovett[i], Russell Metcalfe Smith McPara[j], Sandra Marti-Navarette[j], Pam Cushing[m], Paul Wills[n], Kayla Harris[d], Jenny Sutton[o], Anthony Walmsley[p], Charles D. Deakin[q], Paul Little[q], Mark Farber[q], Bruce Greyson[r], Elinor R. Schoenfeld[a]

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[l] Croydon University Hospital, UK
[m] James Paget Hospital, UK
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Consciousness
Awareness
Near death experiences
Out of body experiences
Post traumatic stress disorder
Implicit memory
Explicit memory

ABSTRACT

Background: Cardiac arrest (CA) survivors experience cognitive deficits including post-traumatic stress disorder (PTSD). It is unclear whether these are related to cognitive/mental experiences and awareness during CPR. Despite anecdotal reports the broad range of cognitive/mental experiences and awareness associated with CPR has not been systematically studied.

Methods: The incidence and validity of awareness together with the range, characteristics and themes relating to memories/cognitive processes during CA was investigated through a 4 year multi-center observational study using a three stage quantitative and qualitative interview system. The feasibility of objectively testing the accuracy of claims of visual and auditory awareness was examined using specific tests. The outcome measures were (1) awareness/memories during CA and (2) objective verification of claims of awareness using specific tests.

Results: Among 2060 CA events, 140 survivors completed stage 1 interviews, while 101 of 140 patients completed stage 2 interviews. 46% had memories with 7 major cognitive themes: fear; animals/plants; bright light; violence/persecution; deja-vu; family; recalling events post-CA and 9% had NDEs, while 2% described awareness with explicit recall of 'seeing' and 'hearing' actual events related to their resuscitation. One had a verifiable period of conscious awareness during which time cerebral function was not expected.

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LEGGE 29 DICEMBRE 1993 n. 578
Norme per l'accertamento e la certificazione di morte
(in Gazz. Uff. 8 gennaio 1994, n. 5)
Art. 1 - Definizione di morte
1. La morte si identifica con la cessazione irreversibile di tutte le funzioni dell'encefalo.
Art. 2 - Accertamento di morte
1. La morte per arresto cardiaco si intende avvenuta quando la respirazione e la circolazione sono cessate per un intervallo di tempo tale da comportare la perdita irreversibile di tutte le funzioni dell'encefalo e può essere accertata con le modalità definite con decreto emanato dal Ministro della sanità.
2. La morte nei soggetti affetti da lesioni encefaliche e sottoposti a misure rianimatorie si intende avvenuta quando si verifica la cessazione irreversibile di tutte le funzioni dell'encefalo ed è accertata con le modalità clinico-strumentali definite con decreto emanato dal Ministro della sanità.

GUEST EDITORIAL

Manifesto for a Post-Materialist Science

Mario Beauregard, PhD, Gary E. Schwartz, PhD, Lisa Miller, PhD, Larry Dossey, MD, Alexander Moreira-Almeida, MD, PhD, Marilyn Schlitz, PhD, Rupert Sheldrake, PhD, and Charles Tart, PhD

From its inception, science has continually evolved because of a fundamental reason: the accumulation of empirical evidence that could not be accommodated by entrenched views. The resulting changes have often been minor, but sometimes they have been titanic, as in the quantum-relativistic revolution of the early decades of the 20th century.

Many scientists believe a similar transition is currently required, because the materialistic focus that has dominated science in the modern era cannot account for an ever-increasing body of empirical findings in the domain of consciousness and spirituality.

The following Manifesto for a Post-Materialist Science by a group of contemporary scholars and researchers attempts to visualize what an emerging scientific view may look like.

Larry Dossey, MD, Executive Editor

We are a group of internationally known scientists, from a variety of scientific fields (biology, neuroscience, psychology, medicine, and psychiatry), who participated in an international summit on post-materialist science, spirituality, and society. The summit was co-organized by Gary E. Schwartz, PhD and Mario Beauregard, PhD, the University of Arizona, and Lisa Miller, PhD, Columbia University. This summit was held at Canyon Ranch in Tucson, Arizona, on February 7–9, 2014. Our purpose was to discuss the impact of the materialist ideology on science and the emergence of a post-materialist paradigm for science, spirituality, and society.

We have come to the following conclusions:

1. The modern scientific worldview is predominantly predicated on assumptions that are closely associated with classical physics. Materialism—the idea that matter is the only reality—is one of these assumptions. A related assumption is reductionism, the notion that complex things can be understood by reducing them to the interactions of their parts or to simpler or more fundamental things such as tiny material particles.
2. During the 19th century, these assumptions narrowed, turned into dogmas, and coalesced into an ideological belief system that came to be known as "scientific materialism." This belief system implies that the mind is nothing but the physical activity of the brain and that our thoughts cannot have any effect upon our brains and bodies, our actions, and the physical world.
3. The ideology of scientific materialism became dominant in academia during the 20th century. So dominant that a majority of scientists started to believe that it was based on established empirical evidence and represented the only rational view of the world.
4. Scientific methods based upon materialistic philosophy have been highly successful in not only increasing our understanding of nature but also in bringing greater control and freedom through advances in technology.
5. However, the nearly absolute dominance of materialism in the academic world has seriously constricted the sciences and hampered the development of the scientific study of mind and spirituality. Faith in this ideology, as an exclusive explanatory framework for reality, has compelled scientists to neglect the subjective dimension of human experience. This has led to a severely distorted and impoverished understanding of ourselves and our place in nature.
6. Science is first and foremost a non-dogmatic, open-minded method of acquiring knowledge about nature through the observation, experimental investigation, and theoretical explanation of phenomena. Its methodology is not synonymous with materialism and should not be committed to any particular beliefs, dogmas, or ideologies.
7. At the end of the 19th century, physicists discovered empirical phenomena that could not be explained by classical physics. This led to the development, during the 1920s and early 1930s, of a revolutionary new branch of physics called quantum mechanics (QM). QM has questioned the material foundations of the world by showing that atoms and subatomic particles are not really solid objects—they do not exist with certainty at definite spatial locations and definite times. Most importantly, QM explicitly introduced the mind into its basic conceptual structure since it was found that particles being observed and the observer—the physicist and the method used for observation—are linked. According to one interpretation of QM, this phenomenon implies that the consciousness of the observer is vital to the existence of the physical events being observed and that mental events can affect the physical world. The results of recent experiments support this interpretation. These results suggest that the physical world is no longer the primary or sole component of reality and that it cannot be fully understood without making reference to the mind.

e. NDEs in cardiac arrest suggest that the brain acts as a transceiver of mental activity, i.e., the mind can work through the brain but is not produced by it. NDEs occurring in cardiac arrest, coupled with evidence from research mediums, further suggest the survival of consciousness, following bodily death, and the existence of other levels of reality that are non-physical.
f. Scientists should not be afraid to investigate spirituality and spiritual experiences since they represent a central aspect of human existence.

a concept in which our endless consciousness with declarative memories finds its origin in, and is stored in, a non-local dimension as wave-fields of information, and the brain only serves as a relay station for parts of these wave-fields of consciousness to be received into or as our waking consciousness. The latter relates to the physical body. These informational fields of our non-local consciousness become available as our waking consciousness only through our functioning brain in the shape of measurable and changing electromagnetic fields. Could our brain be compared to the TV set, which receives electromagnetic waves and transforms them into image and sound? Could it as well be compared to the TV camera, which transforms image and sound into electromagnetic waves? These waves hold the essence of all information, but are only perceivable by our senses through suitable instruments like the camera and TV set. The function of the brain should be compared with a transceiver, a transmitter/receiver, or interface. Thus there are two complementary aspects of consciousness, which cannot be reduced one to the other, and the function of neuronal networks should be regarded as receivers and conveyors, not as retainers of consciousness and memories. (van Lommel, 2013, p. 38)

Gary E. Schwartz

William James and the Search for Scientific Evidence of Life After Death

Past, Present, and Possible Future

Abstract: *William James's historic fascination with psychic phenomena, including the possibility of life after death, has become more widely known with the publication of recent books and articles on this controversial aspect of his scientific legacy. However, little is known about the emerging evidence suggesting the possibility that James's scientific interest in these topics has not waned since he died. This paper reviews preliminary observations, including two exploratory double-blinded mediumship investigations, which are consistent with the hypothesis that James (with others) may be continuing his lifelong quest to address the question of the survival of consciousness after physical death 'from the other side'. These proof-of-concept investigations illustrate how future systematic laboratory research is possible. The limitations of current neuroscience methods are explicated in terms of investigating the hypothesis of the brain as a possible antenna-receiver for consciousness. If James's tentative conclusions about the nature of the relationship between consciousness and the brain turn out to be accurate, then it is logically plausible (if not essential) to posit the possibility that his efforts have persisted in the recent past and present, and may even continue in the future. Scientific integrity plus the pursuit of verity require our being open to this important theoretical and empirical possibility.*

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Journal of Consciousness Studies, **17**, No. 11–12, 2010, pp. 121–52

Henry e WIliam James

He himself was familiar, and would soon be familiar again, with the first effect, but the essay consists largely of an exploration, and eventual affirmation, of the second, in which death is seen as the portal to an extension, not an extinction, of consciousness. He frankly acknowledges, however, the absence of any firm evidence for such a hope. We must resign ourselves, he says,

> to the grim fact that 'science' takes no account of the soul, the principle we worry about, and that we are abjectly and inveterately shut up in our material organs . . . Observation and evidence reinforce the verdict of the dismal laboratories and the confident analysts as to the interconvertibility of our genius and our brain — the poor palpable, ponderable, probeable, laboratory brain.

For him orthodox religion offers no firm foundation from which to challenge this view; neither is he impressed by the claims of spiritualism to access life beyond the veil. The dead are conspicuous by their absence and their silence. So what gives him any confidence in the possibility of personal immortality? Simply 'the accumulation of the very treasure itself of consciousness', *an accumulation heightened and refined by the circumstance of being an artist:*

> It is in a word the artistic consciousness and privilege in itself that thus shines as from immersion in the fountain of being. Into that fountain, to depths immeasurable, our spirit dips – to the effect of feeling itself, *qua* imagination and aspiration, all scented with universal sources. What is that but an adventure of our personality, and how can we after it hold complete disconnection likely?

accept that the sense of self thus produced is just a cruel trick played by Nature which will be rudely exposed at death. He emphasises that this is not 'a belief' *(a word he has been careful to avoid) but* 'a desire'. *There is in fact an implication running through the entire essay, an idea which some speculative theologians have since found attractive, that we will get the afterlife we desire (and no afterlife at all if we don't desire it). The essay concludes:*

> And when once such a mental relation to the question as that begins to hover and settle, who shall say over what fields of experience, past and current, and what immensities of perception and yearning, it shall *not* spread its wings? No, no, no – I reach beyond the laboratory brain.

The Lucretian swerve: The biological basis of human behavior and the criminal justice system
Anthony R. Cashmore, PNAS | March 9, 2010 | vol. 107 | no. 10 | 4499–4504

It is widely believed, at least in scientific circles, that living systems, including mankind, obey the natural physical laws. However, it is also commonly accepted that man has the capacity to make "free" conscious decisions that do not simply reflect the chemical makeup of the individual at the time of decision—this chemical makeup reflecting both the genetic and environmental history and a degree of stochasticism. Whereas philosophers have discussed for centuries the apparent lack of a causal component for free will, many biologists still seem to be remarkably at ease with this notion of free will; and furthermore, our judicial system is based on such a belief. It is the author's contention that a belief in free will is nothing other than a continuing belief in vitalism—something biologists proudly believe they discarded well over 100 years ago.

id facit exiguum clinamen principiorum
nec regione loci certa nec tempore certo Lucrezio De rerum natura

Mente(conscia ed inconscia)

Cervello

Corpo

Ambiente

Mente(conscia ed inconscia)

?????????

Cervello

Corpo

Ambiente

Anima ≠ Mente
Soul ≠ Mind
Seele ≠ Geist
Âme ≠ Esprit / Objets mentaux
Alma ≠ Mente

Experimental Philosophy

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Keywords

moral psychology, moral relativism, free will, consciousness, causation

Abstract

Experimental philosophy is a new interdisciplinary field that uses methods normally associated with psychology to investigate questions normally associated with philosophy. The present review focuses on research in experimental philosophy on four central questions. First, why is it that people's moral judgments appear to influence their intuitions about seemingly nonmoral questions? Second, do people think that moral questions have objective answers, or do they see morality as fundamentally relative? Third, do people believe in free will, and do they see free will as compatible with determinism? Fourth, how do people determine whether an entity is conscious?

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0306-4522/80/0201-0195$02.00/0

COMMENTARY

MIND–BRAIN INTERACTION: MENTALISM, YES; DUALISM, NO

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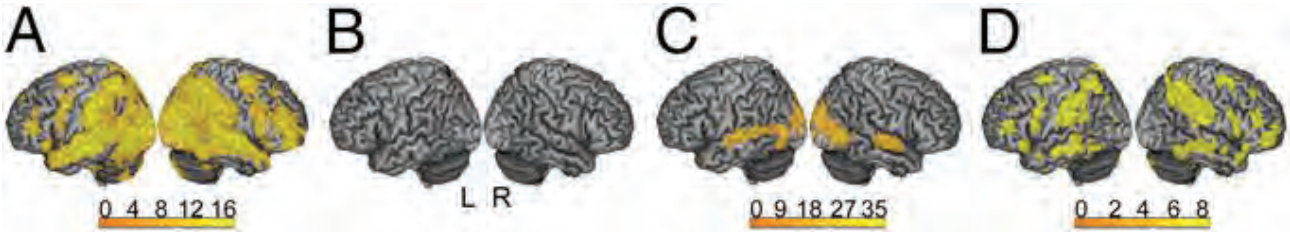
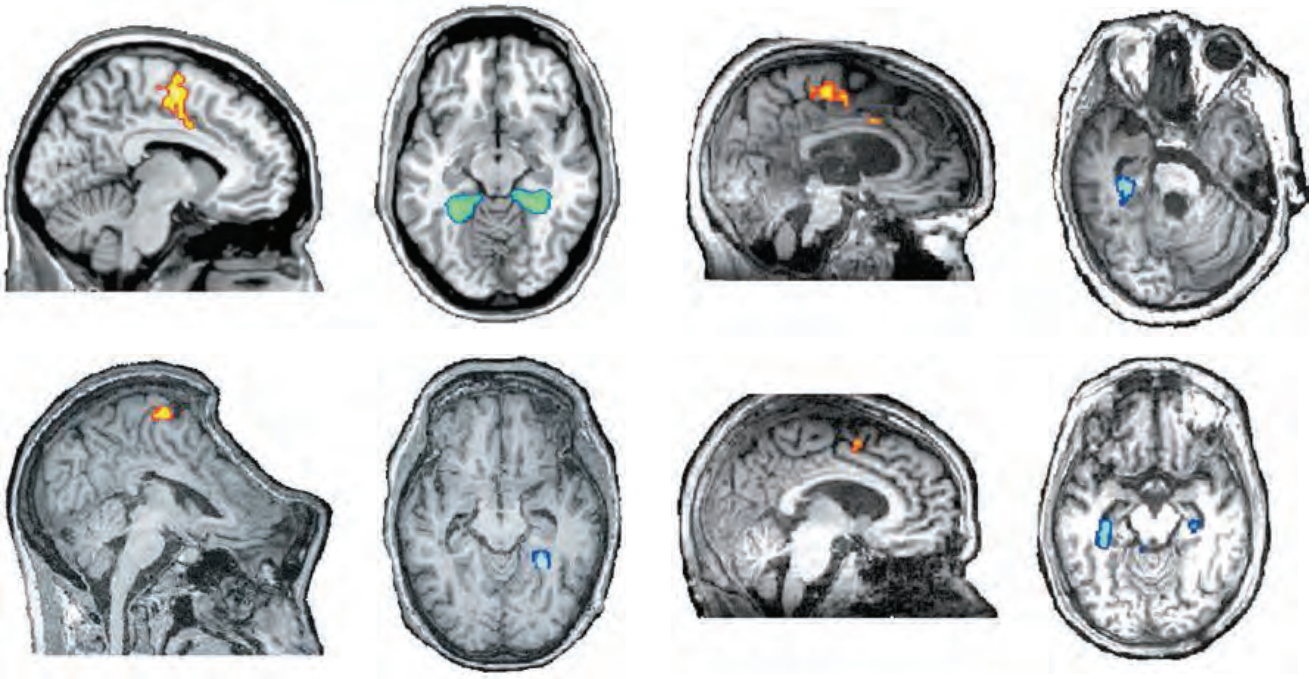
Abstract—A traditional working hypothesis in neuroscience holds that a complete account of brain function is possible, in principle, in strictly neurophysiological terms without invoking conscious or mental agents; the neural correlates of subjective experience are conceived to exert causal influence but not mental qualities *per se*. This long established materialist–behaviorist principle has been challenged in recent years by the introduction of a modified concept of the mind–brain relation in which consciousness is conceived to be emergent and causal. Psychophysical interaction is explained in terms of the emergence in nesting brain hierarchies of high order, functionally derived, mental properties that interact by laws and principles different from, and not reducible to those of neurophysiology. Reciprocal upward and downward, interlevel determination of the mental and neural action is accounted for on these terms without violating the principles of scientific explanation and without reducing the qualities of inner experience to those of physiology. Interaction of mind and brain becomes not only conceivable and scientifically tenable, but more plausible in some respects than were the older parallelist and identity views of the materialist position.

This revised concept of consciousness as causal, with its recognition of mental phenomena as explanatory constructs in science, has brought a marked change during the past decade in the scientific status of consciousness and of mental and cognitive phenomena generally. Resultant mentalist trends within science have been accompanied also by a corollary rise in acceptance of various mentalist-related concepts and dualist beliefs in the supernatural, the paranormal and in unembodied forms of conscious existence that receive no logical support from the new mind–brain concepts of neuroscience. Reasons are advanced to show that our latest mind–brain model is fundamentally monistic and not only fails to support dualism, but serves to further discount fading prospects for finding dualist forms or domains of conscious experience not embodied in a functioning brain.



A common neural code for similar conscious experiences in different individuals
Lorina Naci et al. PNAS September 30, 2014 | vol. 111 | no. 39 | 14277–14282

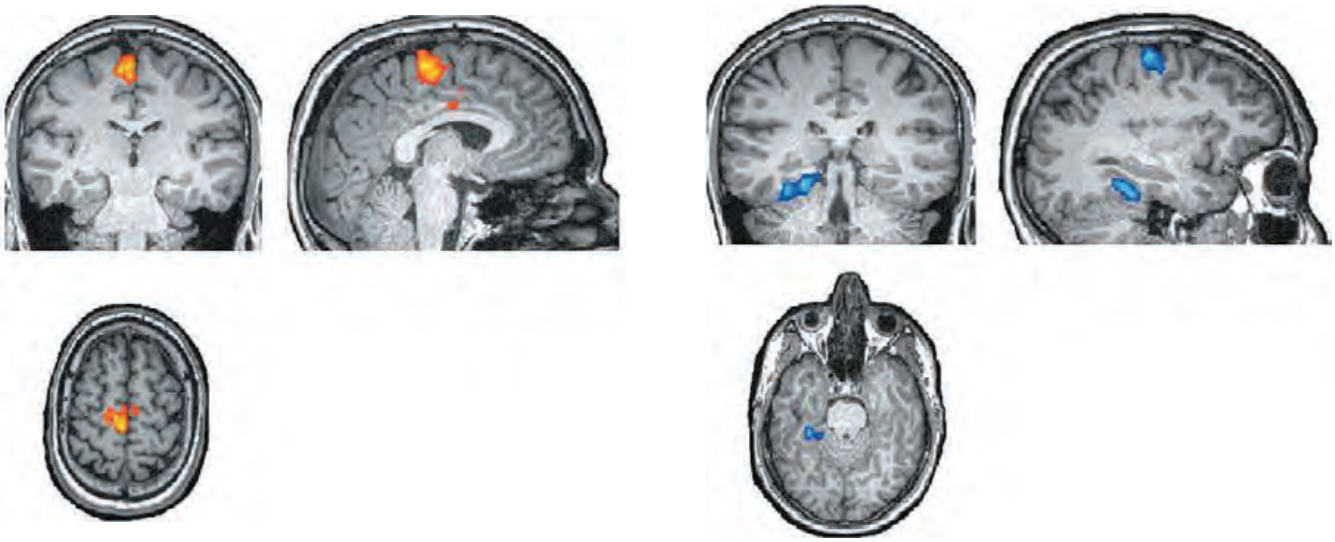


Immaginazione motoria (giocare a tennis, giallo-rosso) e spaziale (percorso stradale, celeste) in un soggetto con cervello intatto (in alto a sinistra) e in tre pazienti con gravi alterazioni della coscienza (stati vegetativi o di minima coscienza)

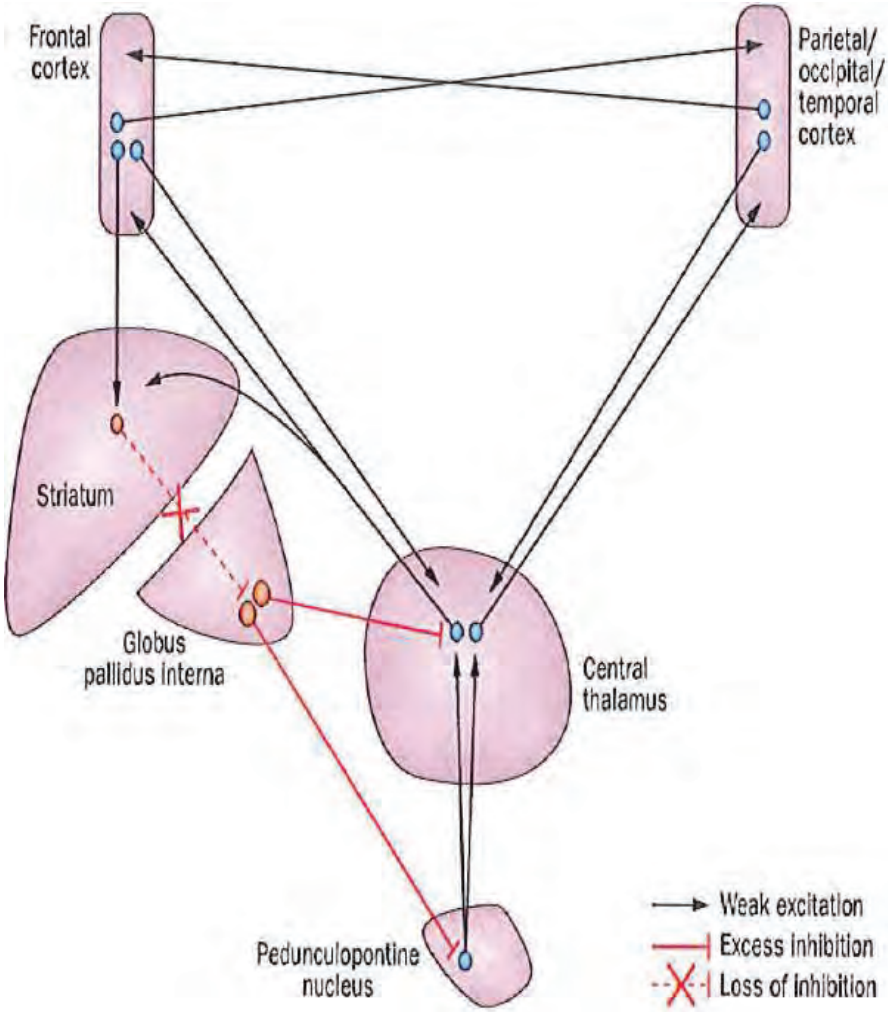
Da Monti et al., New England Journal of Medicine, 2010

A sinistra: Risposta affermativa alla domanda “hai fratelli?” usando l’immaginazione motoria

A destra: Risposta negativa alla domanda “hai sorelle?” usando l’immaginazione spaziale



Monti et al., New England Journal of Medicine, 2010


Frontal cortex
Parietal/ occipital/ temporal cortex
Striatum
Globus pallidus interna
Central thalamus
Pedunculopontine nucleus
Weak excitation
Excess inhibition
Loss of inhibition

Discussion

Prof. Alessandro Antonietti

MENTE E CERVELLO:
LA NEUROPSICOLOGIA
TRA NEUROMANIA E NEUROFOBIA

Alessandro Antonietti

Milano, 7 novembre 2014

Neuromania, neurofobia …

E’ possibile un atteggiamento non “patologico” verso il cervello?

Neurofilia

Neuroscienze dànno contributo a comprensione della mente?

Ciò che non è rivelato dal comportamento

Ciò che non è introspettabile

Neuroscienze dànno contributo a comprensione della mente?

Entusiasmo vs. Prudenza

Bottiglia metà piena – metà vuota

Neuro-

Una disciplina – settore

Un approccio

Problemi/situazioni rilevanti per la disciplina

Temi non generali

“Siamo umani perché abbiamo un cervello umano” (p. 18, 58)

Siamo umani perché abbiamo un corpo umano (che include il cervello)

. Embodiement
. Avere un corpo diverso
. Perdita/mancanza di funzioni intellettive
. Valore degli atti umani

La mente “è radicata” nel cervello
(p. 49, 107)

La mente “è realizzata” dal cervello
(p.107)

La mente “dipende” dal cervello
(p. 18, 103, 166)

Livelli di realtà (p. 21)

Psicologia è autonoma:

- **Solo a fini pratici?**
  (es. riferire depressione al clinico)

- **Descrive metaforicamente il lavoro del cervello**
  (p. 182)

Che cosa vuol dire “spiegare la mente” ? (p. 119)

Permettere di distinguere stati mentali (es. paziente in stato vegetativo)

Visione mentalistica:

Un bisogno psicologico come l’animismo?
O è radicata perché è vera?

Anti-riduzionismo non implica necessariamente il dualismo (e il naturalismo non implica in riduzionismo)