



Feelings, emotions and cognition

Some input from neuropsychiatry

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Let me start with the conclusion

Phenomenology

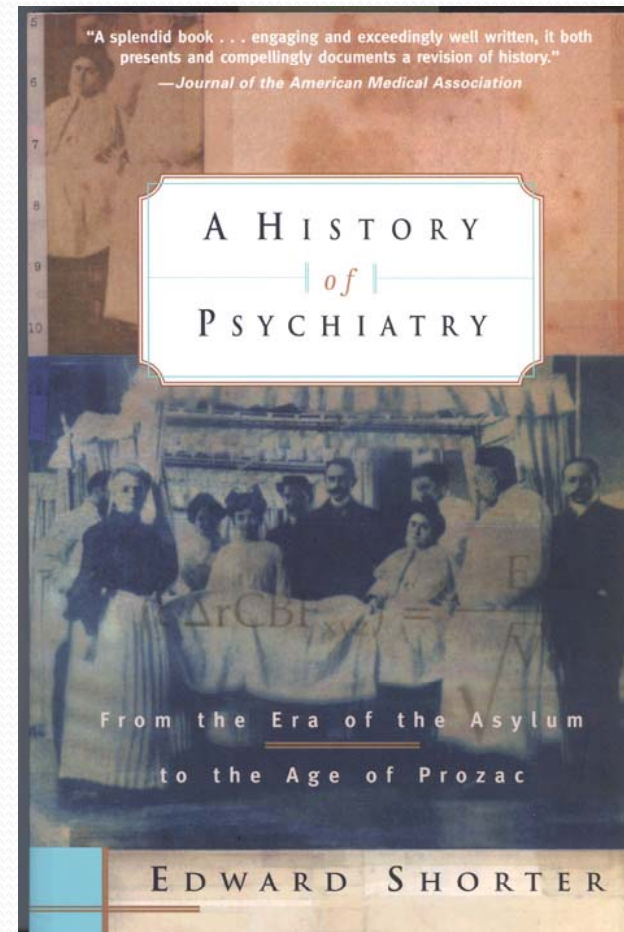
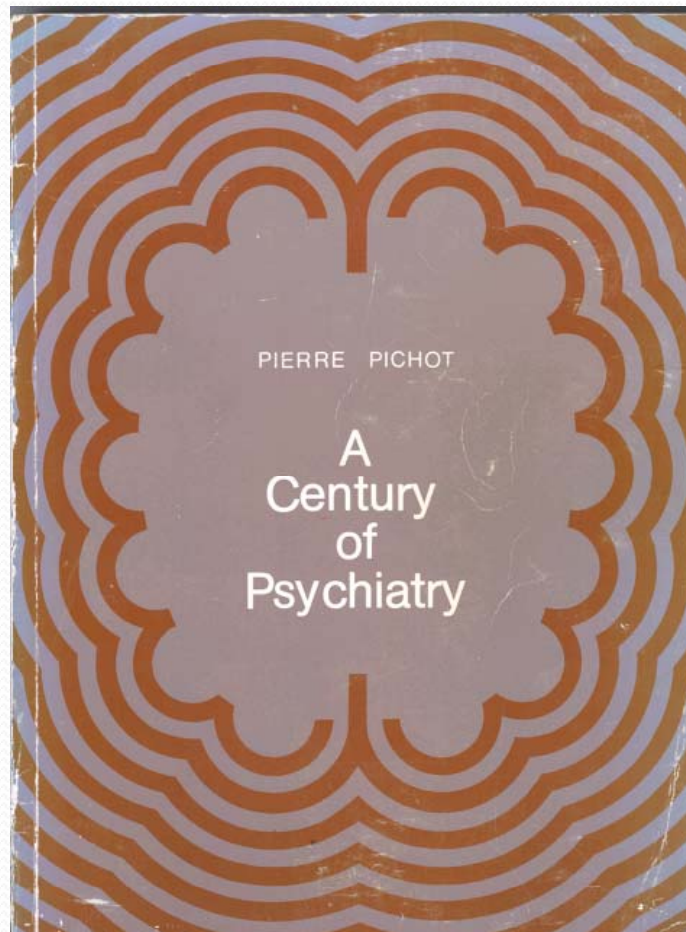
Bodily symptoms

ANXIETY

Cognition

Behaviour

History of psychiatry 1800-





A TREATISE
ON
INSANITY,

IN WHICH ARE CONTAINED
THE
PRINCIPLES OF A NEW AND MORE PRACTICAL NOSOLOGY
OF MANIACAL DISORDERS

THAN HAS YET BEEN OFFERED TO THE PUBLIC,

EXEMPLIFIED BY
NUMEROUS AND ACCURATE HISTORICAL RELATIONS OF CASES
FROM THE AUTHOR'S PUBLIC AND PRIVATE PRACTICE: WITH
PLATES ILLUSTRATIVE OF THE CRANIOLOGY OF MANIAC
AND IDIOTS.

BY PH. PINEL,

PROFESSOR OF THE SCHOOL OF MEDICINE AT PARIS,
*Senior Physician to the Female National Asylum la Salpêtrière, late Physician
to the Asylum de Bicêtre, and Member of many learned Societies.*

—◆◆◆—
TRANSLATED FROM THE FRENCH,

BY D. D. DAVIS, M. D.

PHYSICIAN TO THE SHEFFIELD GENERAL INFIRMARY.

SHEFFIELD :

PRINTED BY W. TODD,

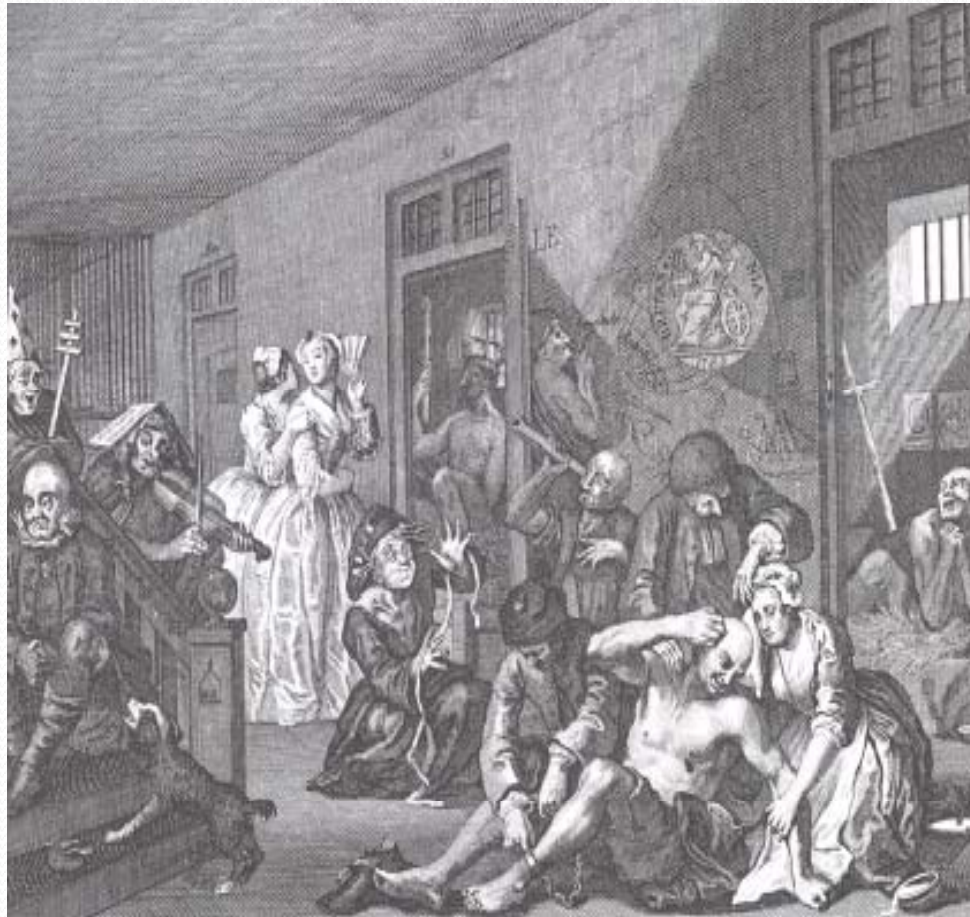
FOR MESSRS. CADELL AND DAVIES, STRAND, LONDON.

1806



The golden era of psychopathology

Delusions



Visual hallucination



"Do you mind? I happen to be next

Blanche Wittmann in opisthotonus

"Grand Hysterie"

Babinski



A Brouillet: A clinical lecture at the Salpêtrière 1887

Gilles de la Tourette

Jean-Martin Charcot



Born November 29, 1825

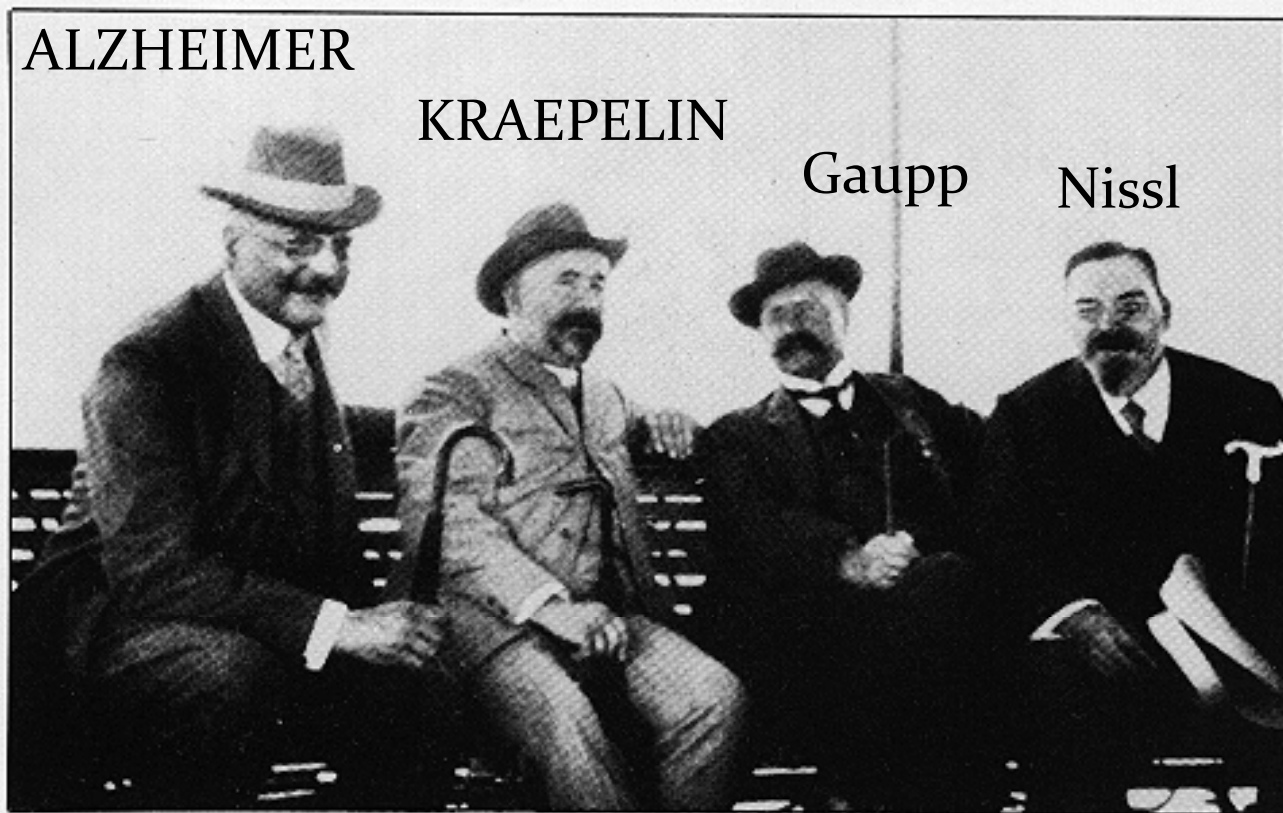
Died August 16, 1893

Germany: Psychic diseases are brain disease



Wilhelm Griesinger, professor of psychiatry in Berlin 1865–1868, who is considered to be the founder of “the first biological psychiatry” (courtesy of National Library of Medicine).

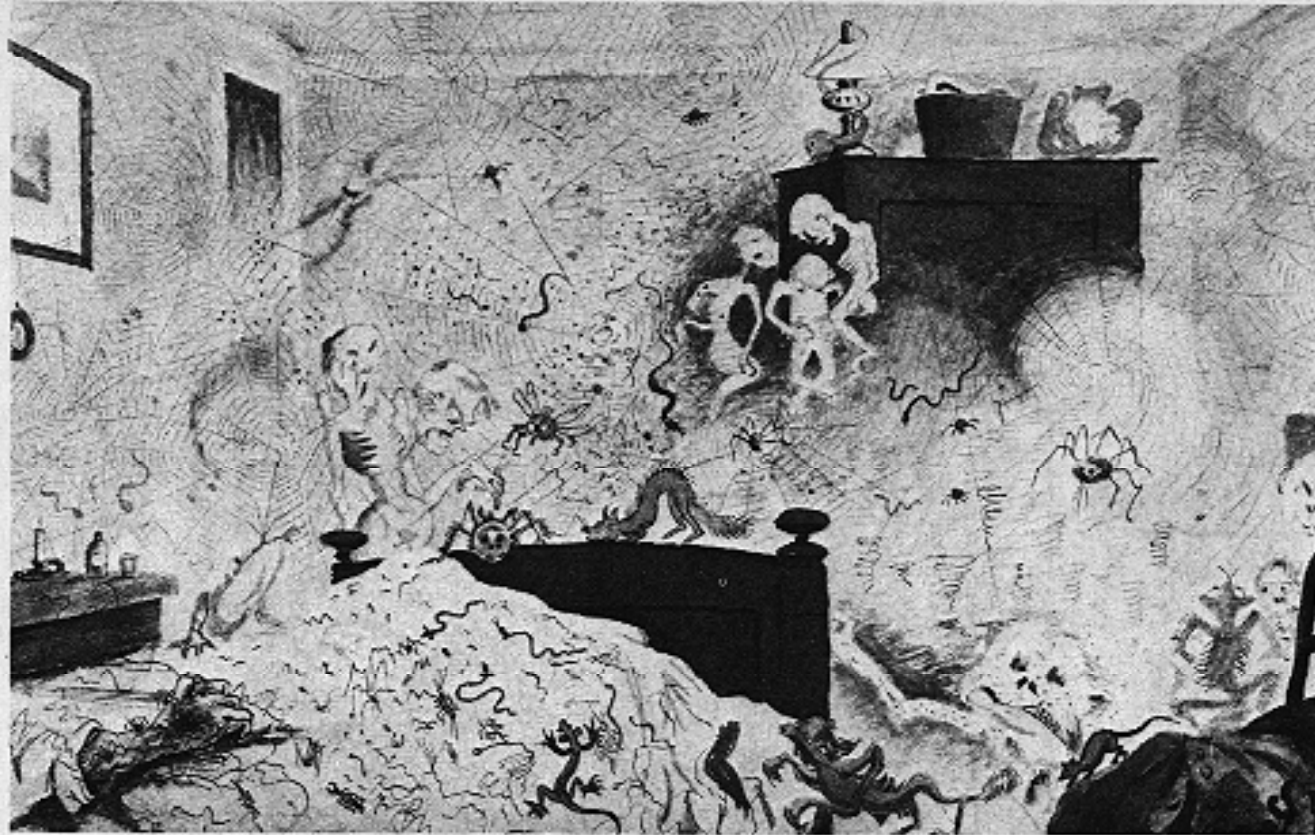
Starnberger See 1900



Utflykt på Starnberger See 1900. Från vänster Alzheimer, Kraepelin, Gaupp och Nissl (från Scholz W, ed. 50 Jahre Neuropathologie in Deutschland. Georg Thieme Verlag, 1961).

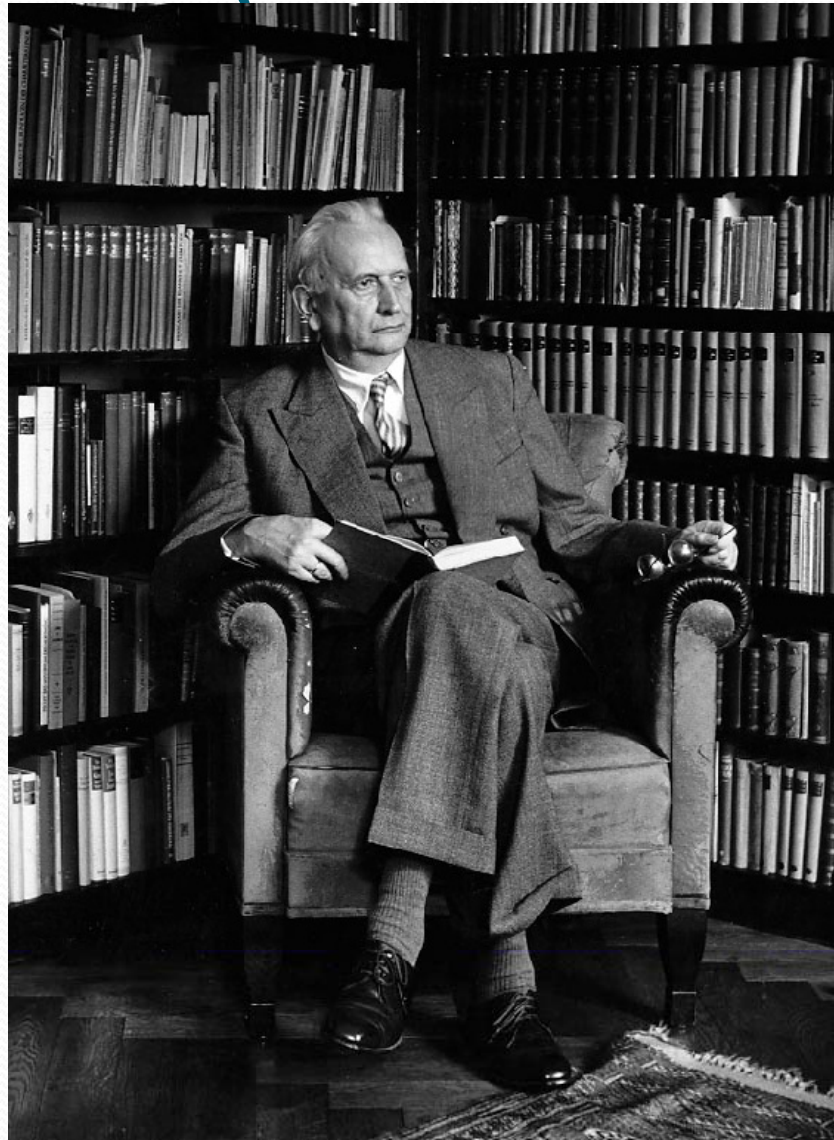
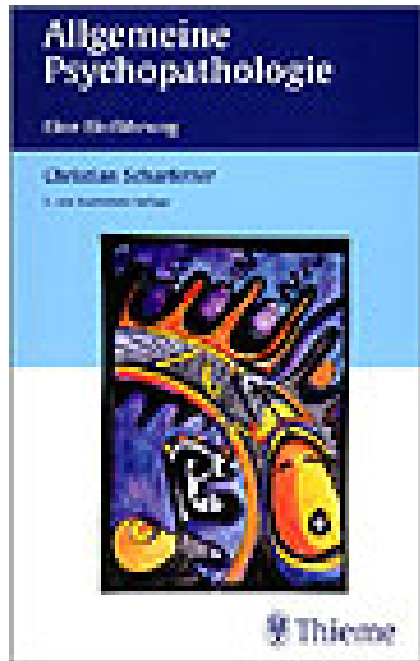
K Birnbaum (1878-1950)

Exogenic reactionstypes



Figur 18-1. Tegning af erindringer om oplevelser under delirium tremens (45-årig mand). Vistnok første danske eksempel på tegning anvendt til at belyse en patients tilstand. (Efter Brünniche, E.: Erindringsbilleder fra akut, alkoholisk delirium. I: Festskrift til professor Friedenreich, Bibliotek for læger 1919, 111, 199-214. Originalen findes nu på Medicinsk-historisk museum, København).

Karl Jaspers (1883-1969)





Some basic concepts (Jaspers)

- Phenomenology (p.25-26)
 - ..the first step towards scientific knowledge of the psyche is the selection, delimitation, differentiation and description of particular *phenomena of experience*
 - ..the only concern is with the actual experience
 - ..Individual facts emerge out of the living flow of psychic reality
- Psychopathology is concerned with the ill person as a whole, in so far as he suffers from a psychic illness (p.6)

CHAPTER I

SUBJECTIVE PHENOMENA OF MORBID
PSYCHIC LIFE

(PHENOMENOLOGY—PHENOMENOLOGIE)

Introduction

Phenomenology¹ sets out on a number of tasks: it *gives a concrete description* of the psychic states which patients actually experience and *presents* them *for observation*. It reviews the inter-relations of these, *delineates* them as sharply as possible, differentiates them and creates a suitable terminology. Since we never can perceive the psychic experiences of others in any direct fashion, as with physical phenomena, we can only make some kind of representation of them. There has to be an act of empathy, of understanding, to which may be added as the case demands an enumeration of the external characteristics of the psychic state or of the conditions under which the phenomena occur, or we may make sharp comparisons or resort to the use of symbols or fall back on a kind of suggestive handling of the data. Our chief help in all this comes from the patients' own *self-descriptions*, which can be evoked and tested out in the course of personal conversation. From this we get our best-defined and clearest data. Written descriptions by the patient may have a richer content but in this form we can do nothing else but accept them. An experience is best described by the person who has undergone it. Detached psychiatric observation with its own formulation of what the patient is suffering is not any substitute for this.

Only faith, transcending
and acting be sure of the
er above both without

in the schizophrenic
ntly explicit. Experi-
olves a deep religious
distance for thousands
I not merely as some
non if we really want
, whether it occurs in
scurs is both at once.
and error in regard
gard to metaphysical

is to what we mean by
e mean by instinctual
the word and concept
al case. Commonly the
ly belong to the phen-
nd volitional acts. All
illed 'feeling'. That is,
h we can find no other
ot right. He feels that
ey, etc. *This diverse set*
rily analysed from the
es the basic element or
ion the basic elements
w scientific investiga-
n the other hand there
ject-awareness as well

r, psychologists¹ have
et an orientation from
which will help us to
sive analysis of every
ities.² First therefore
classified:

Lipps zum 60 Geburtstag
psychologie der Gefühle',

level, see Hoffding and
Psychologie der Gefühle

1. *Phenomenologically*, according to the different modes in which they appear:

(a) Feelings that are an aspect of *conscious personality*, and define the self; these are broadly contrasted with feelings that *lend colour to object-awareness*, e.g. my own sadness in contrast to the sadness of a landscape (Geiger).

(b) Feelings that can to some extent be *grouped in opposites*; Wundt, for instance, distinguished pleasure and displeasure, tension and relaxation, excitement and calm. There are a number of such opposites: e.g. profound and shallow feelings (Lipps); feelings of shatterment, deep pain on the one hand and feelings of petulance or for the comic on the other.

(c) Feelings may be *without an object* and contentless (i.e. how one feels) or they may be *directed upon some object* and classified accordingly.

2. *According to their object* (Meinong, Witasek). Here the contrast is between phantasy feelings directed on to *suppositions* and reality feelings *directed upon actual objects*. Feelings of value may be directed on the *subject himself* or on to someone else; they may be positive or negative (pride-submissiveness, love-hate). Any classification by content, e.g. social feelings, patriotic feelings, family or religious feelings etc., leads not so much to a classification of feelings as to a classification of the innumerable *contents*, to which feelings of value may be attached. Language has uncounted resources at its disposal for this end but these are better suited for concrete description than for the purpose of a general phenomenological analysis.

3. *According to source*. The classification is made in accordance with different *levels* of psychic life, i.e. a distinction is made between localised feeling-sensations, vital feelings involving the whole body, psychic feelings (e.g. sadness, joy), and spiritual feelings (a state of grace) (Scheler, Kurt Schneider).

4. *According to the biological purpose*, the vital significance of the feelings, e.g. pleasurable feelings express the advancement of biological purposes, displeasurable feelings their frustration.

5. *Particular* feelings directed on specific objects or partial aspects of the whole are distinguished from *all-inclusive feelings*, where the separate elements are fused into some temporary whole, which is then called *the feeling-state*. Such feeling-states are characterised in various ways; for instance, there are irritable feeling-states, states of sensibility and of diminished or increased excitability. A 'feeling of being alive' arises on the basis of organic sensations as an expression of the vital state, of drives, needs, tendencies and of the organism as a whole.

6. The old and useful classification into feeling, affect and mood is based on the difference of *intensity* and *duration* of feeling. *Feelings* are individual, unique, and radical commotions of the psyche. *Affects* are momentary and complex emotional processes of great intensity with conspicuous bodily accompaniments and sequelae. *Moods* are states of feeling or frames of mind that come about with prolonged emotion which while it lasts colours the whole psychic life.

7. *Feelings* are distinguished from *sensations*. Feelings are states of the self (sad or cheerful); sensations are elements in the perception of the environment and of one's own body (colour, pitch, temperature, organic sensations). Sensations, however, show a whole scale of differences; they range from those that are purely object-bound to subjective bodily states. Vision and hearing are purely object-bound while organic sensations, vital sensations, sensations of stance and balance all predominantly refer to subjective bodily states. Between these two poles we find sensations referable to bodily states at the same time as they are object-bound, e.g. sensations of skin,

• Feeling

- Individual, unique states , and radical commotions of the psyche

• Affects

- Momentary and complex emotional processes of great intensity with conspicuous *bodily* accompaniments

• Moods

- States of feeling or frame of mind ..with prolonged emotion.. colours the *whole* psychic life

Abnormal feelings and affective states (Jaspers)

- Changes in bodily feelings
- Changes in feelings and capacity
- Apathy
- The feeling of lost feeling
- Changes in the feeling-tone of perception
 - Increase
 - Acute psychosis
 - Abnormal feeling of happiness
 - Experience of God, purpose of life etc
- Unattached feelings (free-floating feeling)
 - Anxiety
 - Agitation

Psychopathology 2006

Manual

Psychopathology

Psychopathology 2005;38:236–258
DOI: [10.1159/000098441](https://doi.org/10.1159/000098441)

Received: January 12, 2005
Accepted: April 26, 2005
Published online: September 20, 2005

EASE: Examination of Anomalous Self-Experience

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The Examination of Anomalous Self-Experience (EASE) is a symptom checklist for semi-structured, phenomenological exploration of *experiential* or *subjective* anomalies that may be considered as disorders of basic or 'minimal' self-awareness. The EASE is developed on the basis of self-descriptions obtained from patients suffering from schizophrenia spectrum disorders. The scale

for a detailed account of phenomena that have in common a somehow deformed sense of first-person perspective – in brief, a disorder or deficiency in the sense of being a subject, a self-coinciding center of action, thought, and experience¹.

The scale is mainly designed for conditions in the schizophrenia spectrum, but it cannot be used alone as a

Man as a whole: a modern view

from mild distress to
depersonalization,
derealisation
or agitation

Phenomenology

Bodily symptoms

Cardial, respiratory
etc

ANXIETY

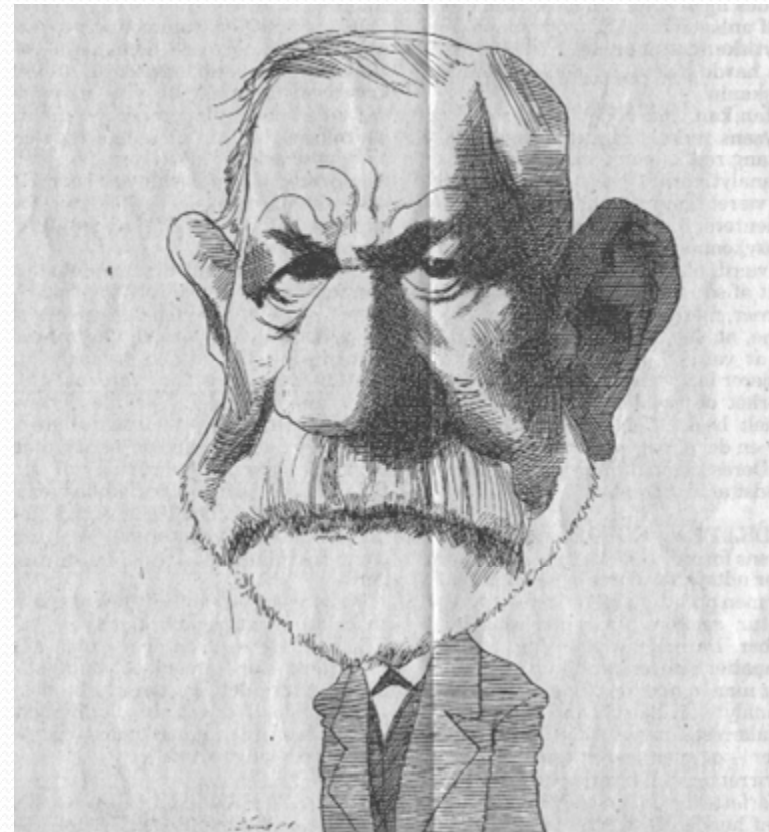
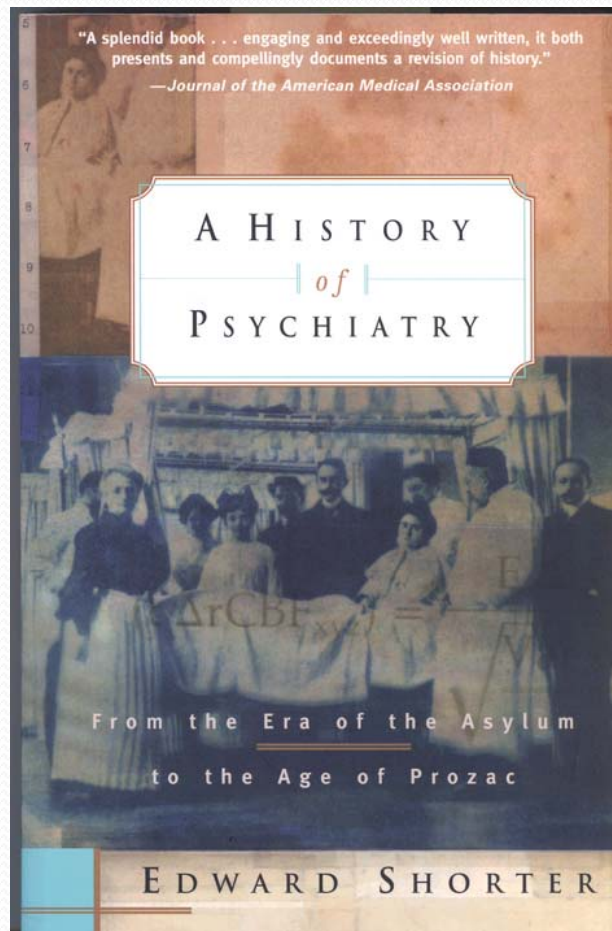
Interpretation
communication

Cognition

Behaviour

Frightened appearance
Immobilization
Fight/flight

The psychoanalytic hiatus 1940-70



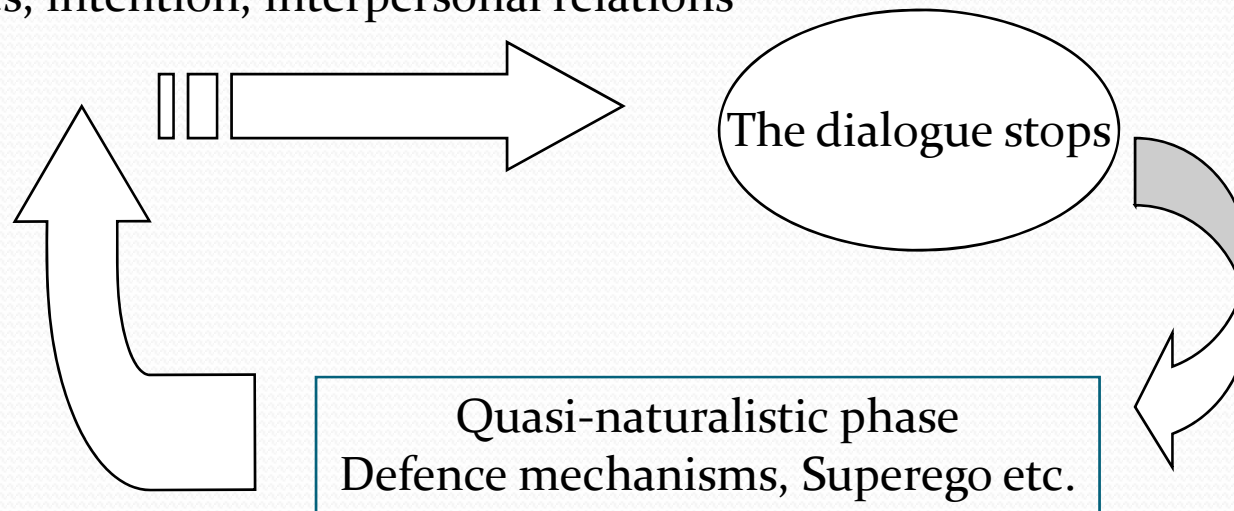
Psychoanalysis a.m.

Lesche & Lorenzer

Phenomenology

Psychological understanding

Motives, intention, interpersonal relations



Meta-hermeneutic theory, i.e.

Psychoanalysis

1970-

- Feeling, emotions & cognition
 - Phenomenology →
 - Neuropsychology
 - Brain function →
 - Neurobiology



"Broach Schizophrenia" by Bryan Charnley. Courtesy of the Royal Hospital Archives and Museum, UK.

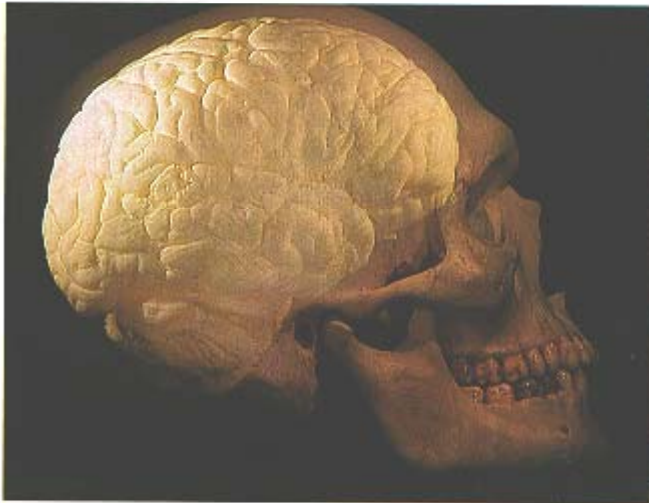
OPINION

Cognitive neuropsychiatry: towards a scientific psychopathology

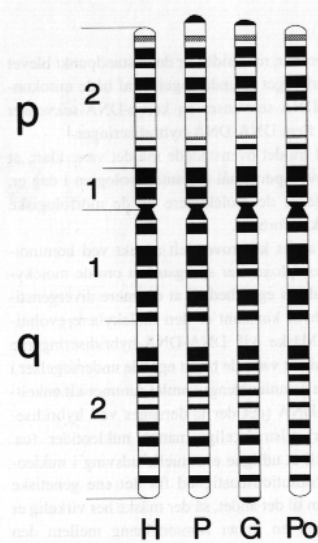
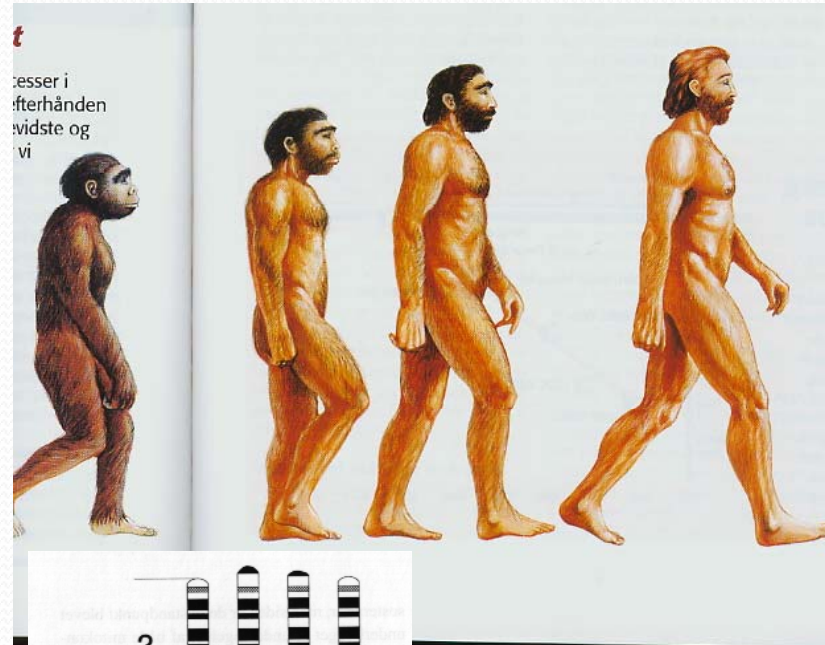
Peter W Halligan & Anthony S David

Nat.Rev.Neurosci. 2 (3):209-215, 2001.

Naturalism and man

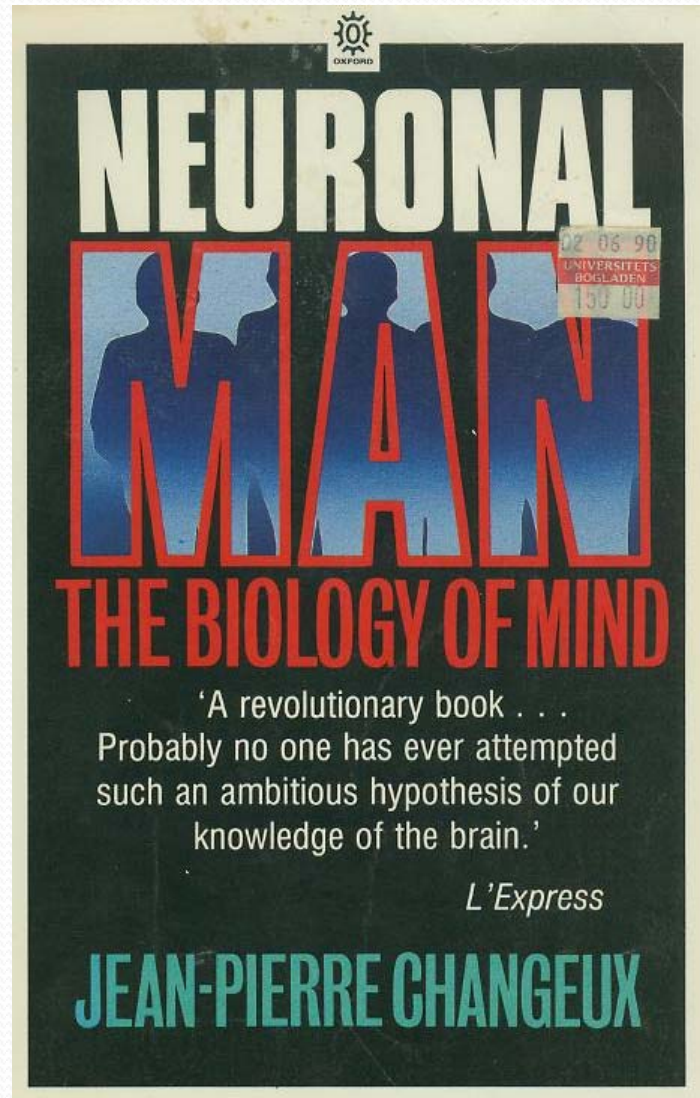


National Geographic 1997; 191: 89



Figur 7-4: Skematisk repræsentation af kromosom 6 hos mennesket (H), chimpansen (P), gorillaen (G) og orangutanen (Po) til illustration af den høje grad af homologi mellem kromosomerne hos mennesket og de store menneskeaber.

Neuroscience revolution

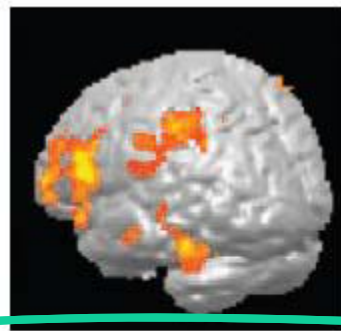


1985

Emergentism



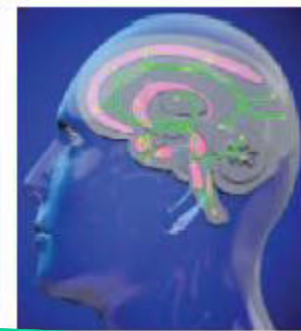
Disease



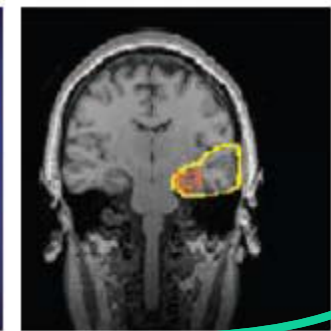
Function



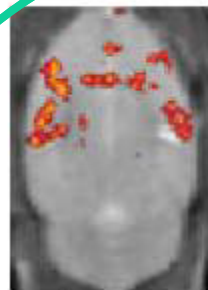
Targets



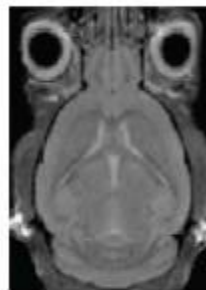
Pathways



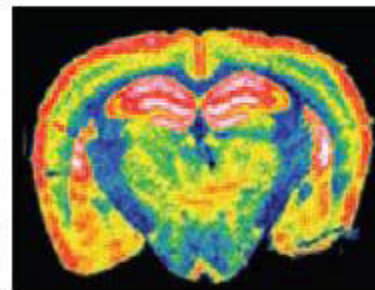
Structure



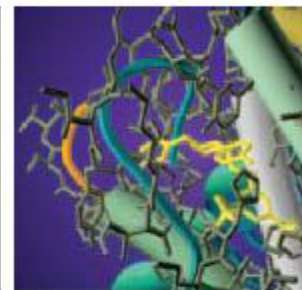
Function



Organ



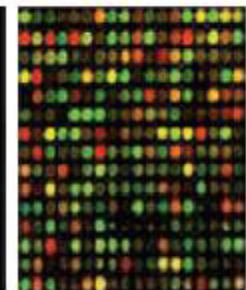
Tissue



Receptors



Cellular



Genomic



Emergentism

- Ontological physicalism
 - All that exist in the spacetime world are the basic principles recognized in physics and their aggregates
- Property emergence
 - When aggregates of material particles attain an appropriate level of structural complexity, genuinely novel properties emerge to characterize these structured systems
- Irreducibility
 - *Emergent properties are irreducible to, and unpredictable from, the lower level phenomena from which they emerge*

Kim: philosophy of mind 1998, p.226ff



Consciousness – cognitive science

- The human brain is an organ to represent and process salient information about the environment
- All human mental events occur as the results of neural information processing
- All human (nonreflexive) overt behavior occurs as the results of neural information processing

Iliardi & Feldman (2001)

The frontal lobes

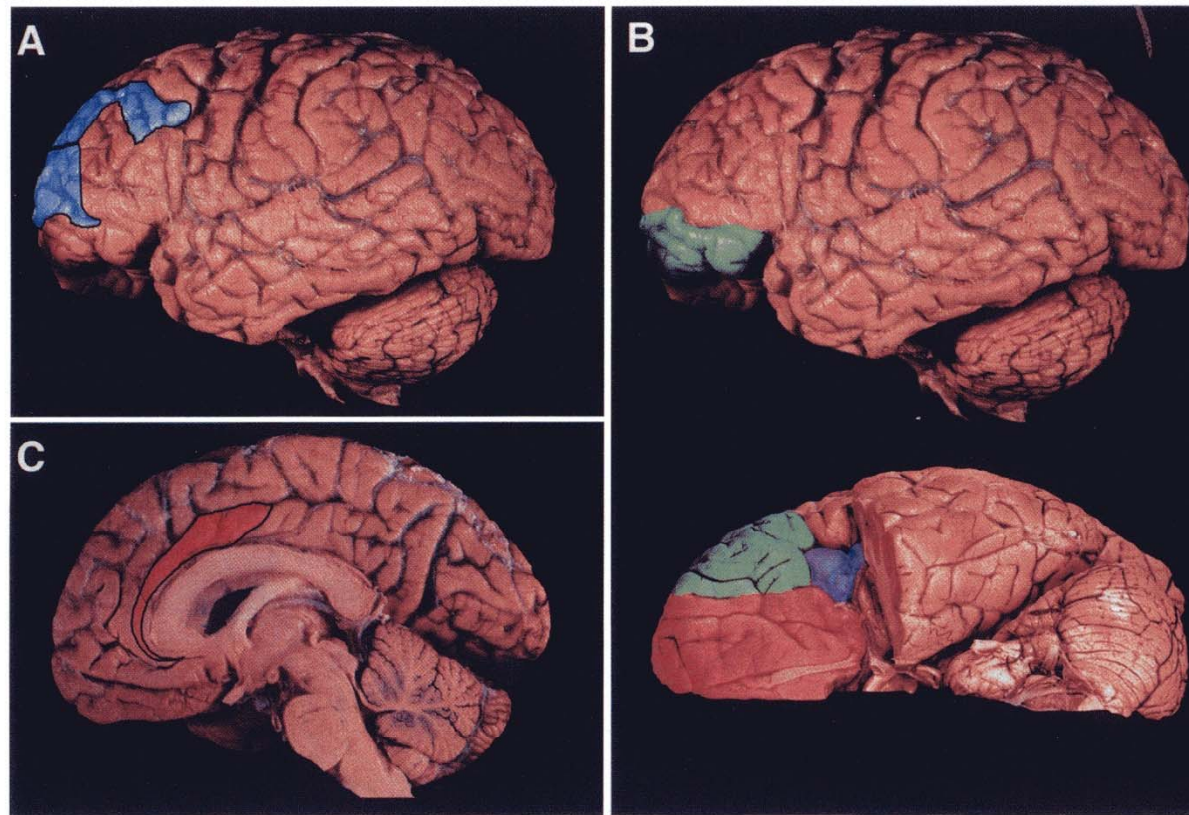
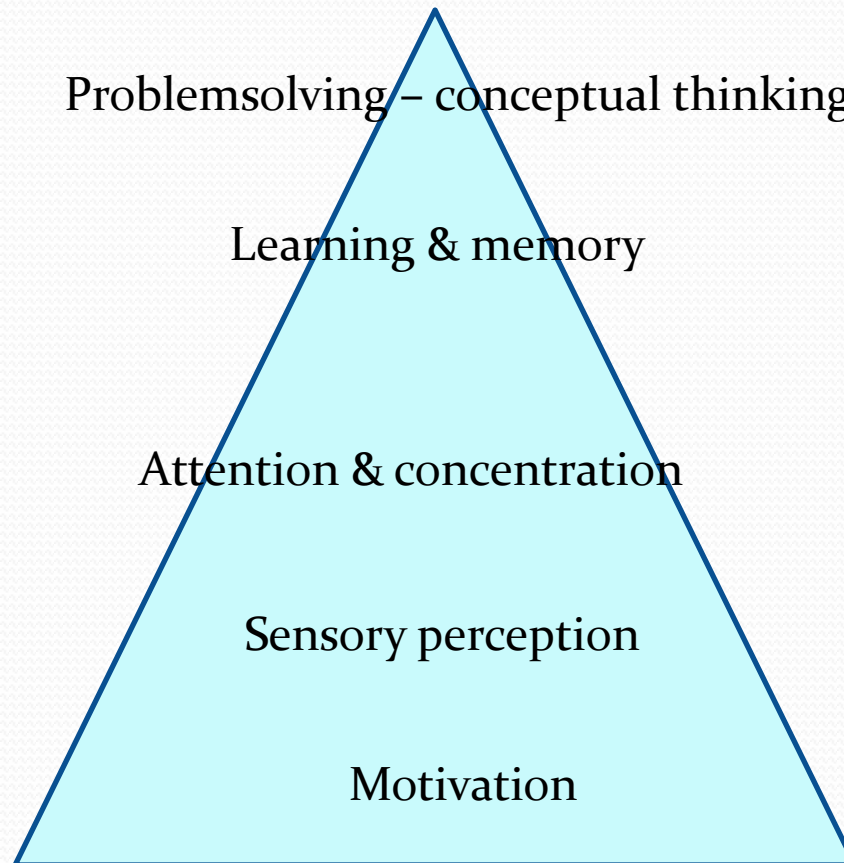


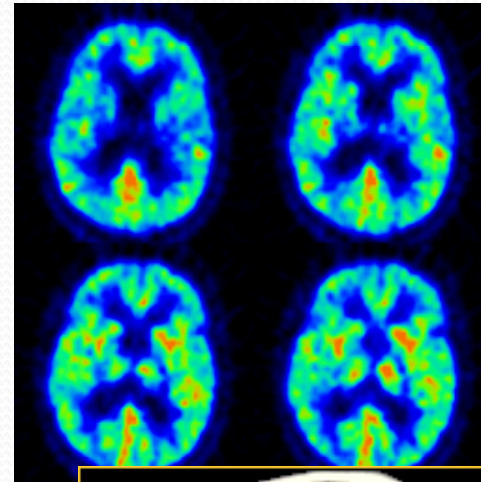
FIGURE 3–2. Cortical sites of origin for the dorsolateral, orbitofrontal, and anterior cingulate frontal subcortical circuits.

A: Origin of the dorsolateral circuit. Brodmann's areas 9 and 10 are colored blue on the superior and inferior dorsolateral prefrontal cortex. **B:** Origin of the orbitofrontal circuit. The medial division is in red and includes Brodmann's area 14 and the medial portion of areas 11 and 13 in monkeys—all equivalent to the gyrus rectus and medial orbital gyrus of area 11 in human. The lateral division is in green and includes the lateral portion of Brodmann's areas 11 and 13 and all of 12 in monkey—all equivalent to the lateral orbital gyrus of area 11 and the medial inferior frontal gyrus of areas 10 and 47 in human. The insula is shown in purple. **C:** Origin of the anterior cingulate circuit. The anterior portion of Brodmann's area 24 is colored red on the medial frontal cortex.

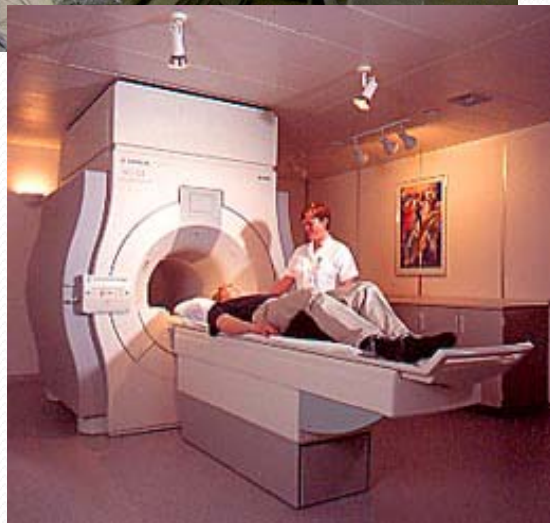
Cognition in neuropsychology



Technical innovations: PET- & MR-Scanning



Function



Structure

The background is a solid blue color with a gradient. At the top, there are several wavy, horizontal lines in shades of blue and teal, creating a sense of movement or a horizon line. The main body of the image is a uniform blue.

Anxiety

Anno 2008

Man as a whole: a modern view

Phenomenology

Bodily symptoms

ANXIETY

Cognition

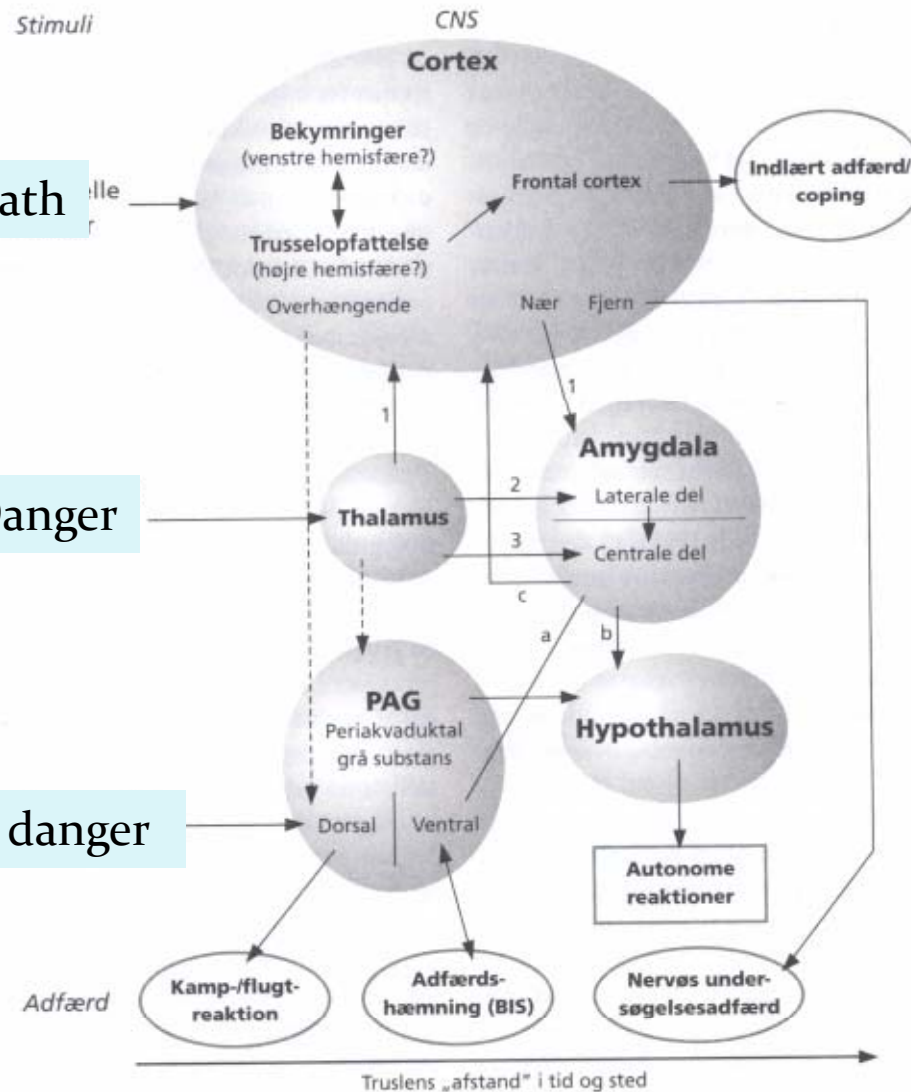
Behaviour

Anxiety regions

Potential threat

Danger

Immediate danger

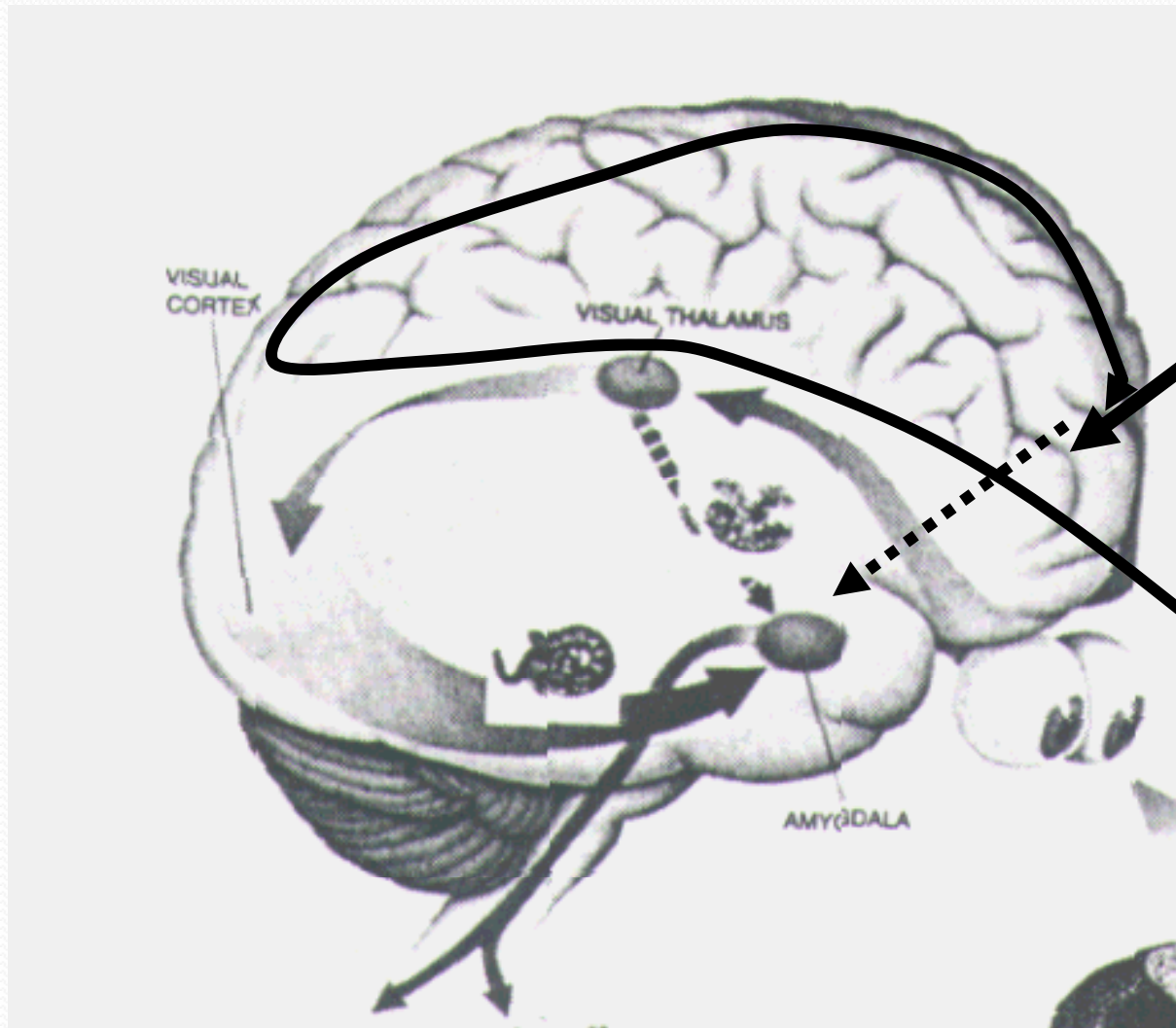


Figur 1.3. Neurofysiologisk angstmodel.

Flight, fight --- or reflexion ?



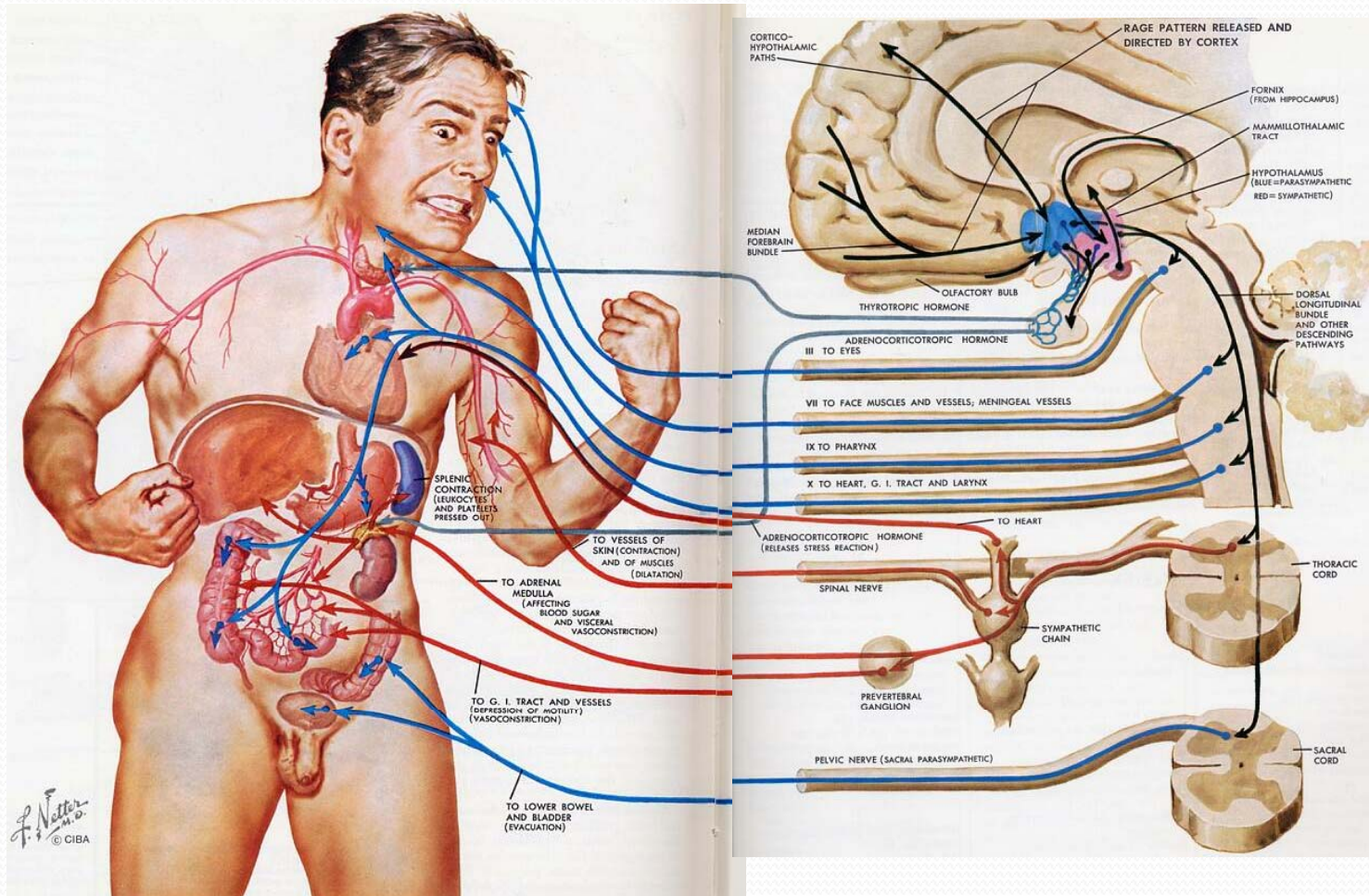
The brain as a whole



Cognition:
interpretation

Immediate danger

The autonomic nervous system



Social phobia

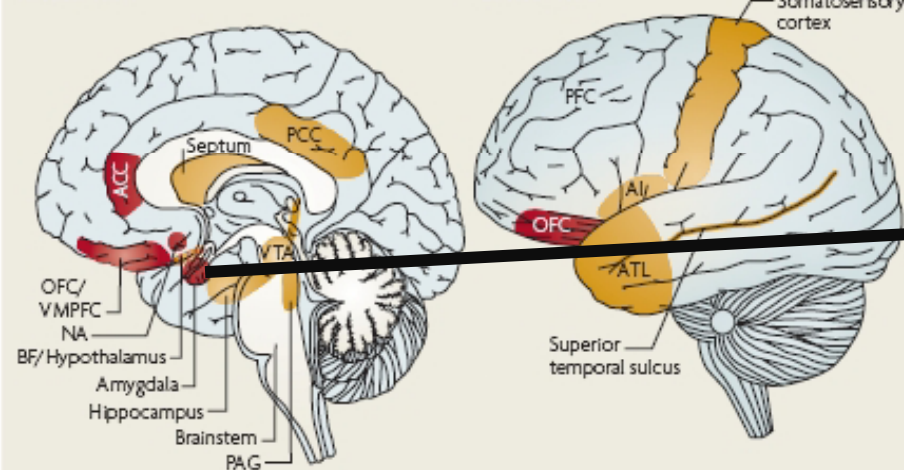


- A.
 - (1) Marked fear of being the focus of attention, or fear of behaving in a way that will be embarrassing or humiliating.
 - (2) Marked avoidance of being the focus of attention, or of situations in which there is fear of behaving in an embarrassing or humiliating way
- C. The individual recognizes that these are excessive or unreasonable
- D. Symptoms restricted to the feared situations or contemplation of the feared situation

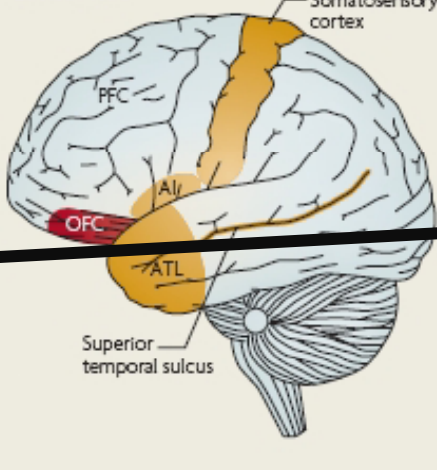
The emotional brain

Box 1 | The emotional brain: core and extended regions

Medial view



Lateral view



Summarizing the set of brain regions that comprise the emotional brain is plagued by possibly insurmountable conceptual difficulties. Nevertheless, some regions feature prominently in the discourse surrounding affective neuroscience. They are listed here based on an informal assessment of the frequency with which they appear in the literature; regions appearing with greater frequency will be labelled 'core', and less frequent ones as 'extended'. The core emotional regions (dark red areas in figure) include, subcortically, the amygdala, the nucleus accumbens (NA) and the hypothalamus, and cortically, the orbitofrontal cortex (OFC), the anterior cingulate cortex (ACC) (especially the rostral part) and the ventromedial prefrontal cortex (VMPFC). Extended regions (brown areas) include, subcortically, the brain stem, the ventral tegmental area (VTA) (and associated mesolimbic dopamine system), the hippocampus, the periaqueductal grey (PAG), the septum and the basal forebrain (BF) (including the nucleus basalis of Meynert); and cortically, the anterior insula (AI), the prefrontal cortex (PFC), the anterior temporal lobe (ATL), the posterior cingulate cortex (PCC), superior temporal sulcus, and somatosensory cortex. Although one could attempt to link the core and extended regions to specific affective functions, such an attempt would be largely problematic because none of the regions is best viewed as 'purely affective'.

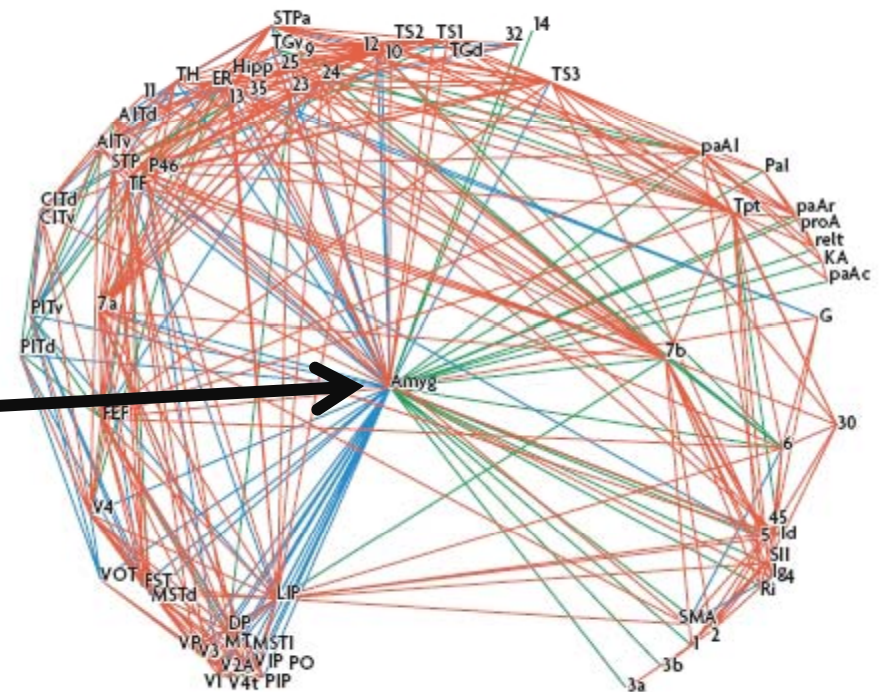


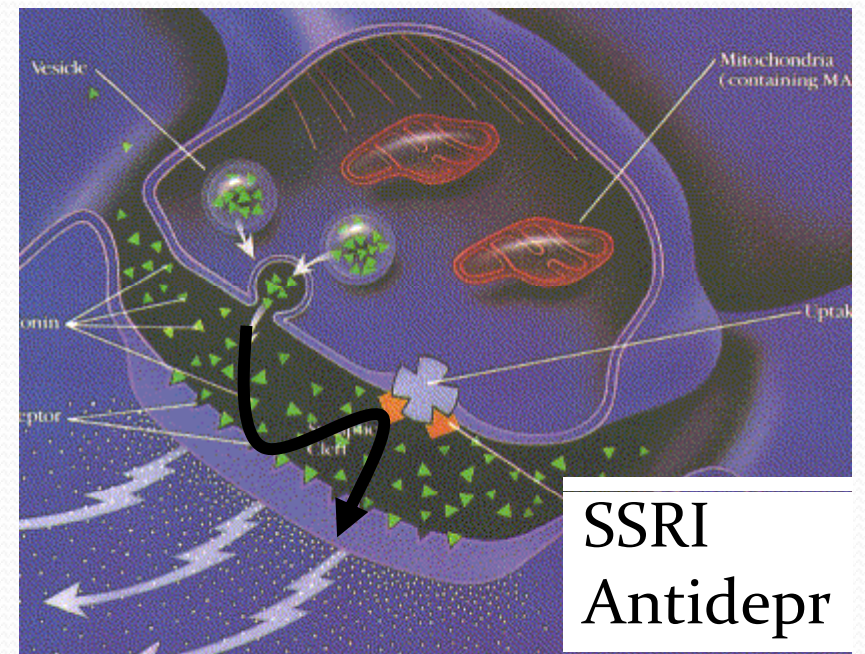
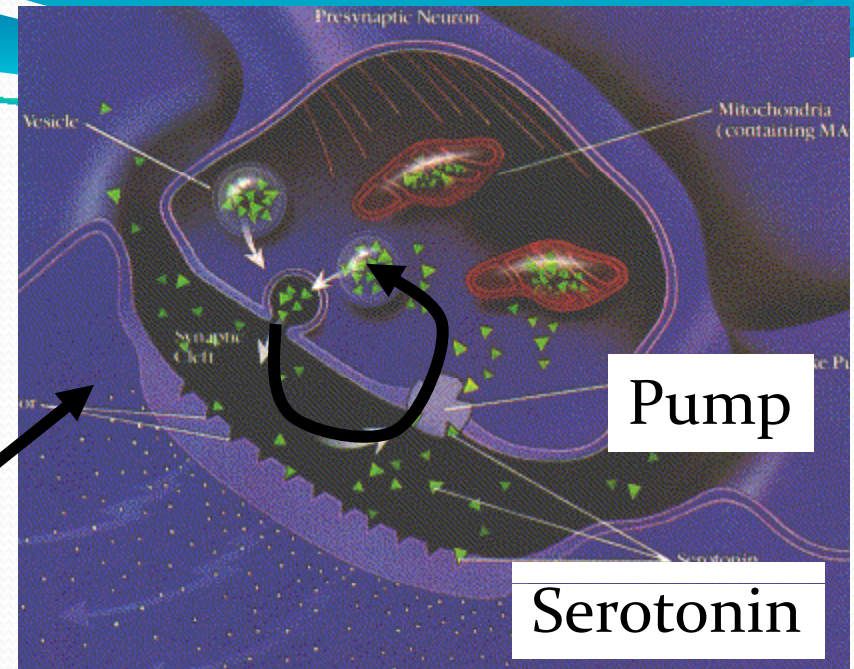
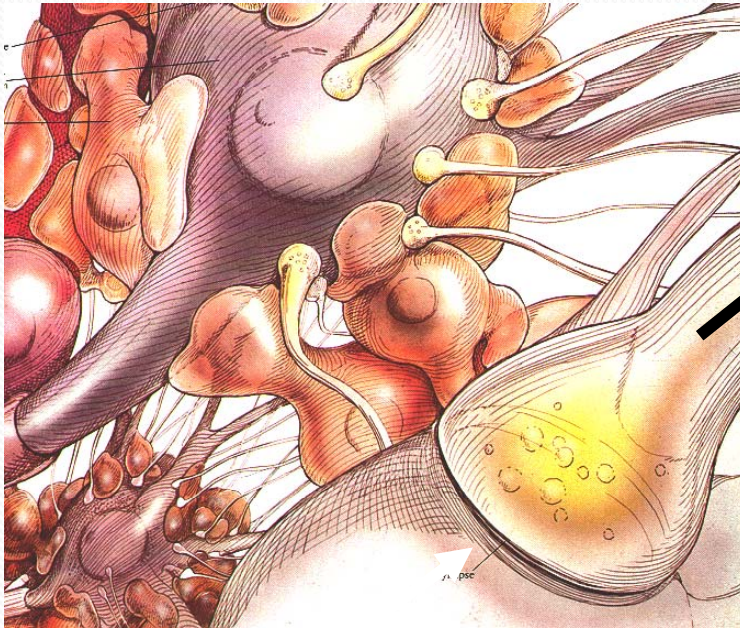
Figure 1 | Brain connectivity graph. Quantitative analysis of brain connectivity reveals several clusters of highly interconnected regions (represented by different colours). In this analysis by Young and collaborators⁸⁹, the amygdala (Amyg, centre of figure) was connected to all but 8 cortical areas. These connections involved multiple region clusters, suggesting that the amygdala is not only highly connected, but that its connectivity topology might be consistent with that of a connector hub that links multiple provincial hubs, each of which links regions within separate functional clusters. In this manner, the amygdala is hypothesized to be a strong candidate for integrating cognitive and emotional information. Figure labels represent different cortical areas with the exception of Hipp (hippocampus) and Amyg, which represent subcortical areas. Figure reproduced, with permission, from REF. 82 © (1994) Freund Publishing.

Treatment of anxiety

Drugs

Cognitive therapy

Synaptic transmission & drugs



Socialfobia: treatment cognitive therapy - citalopram

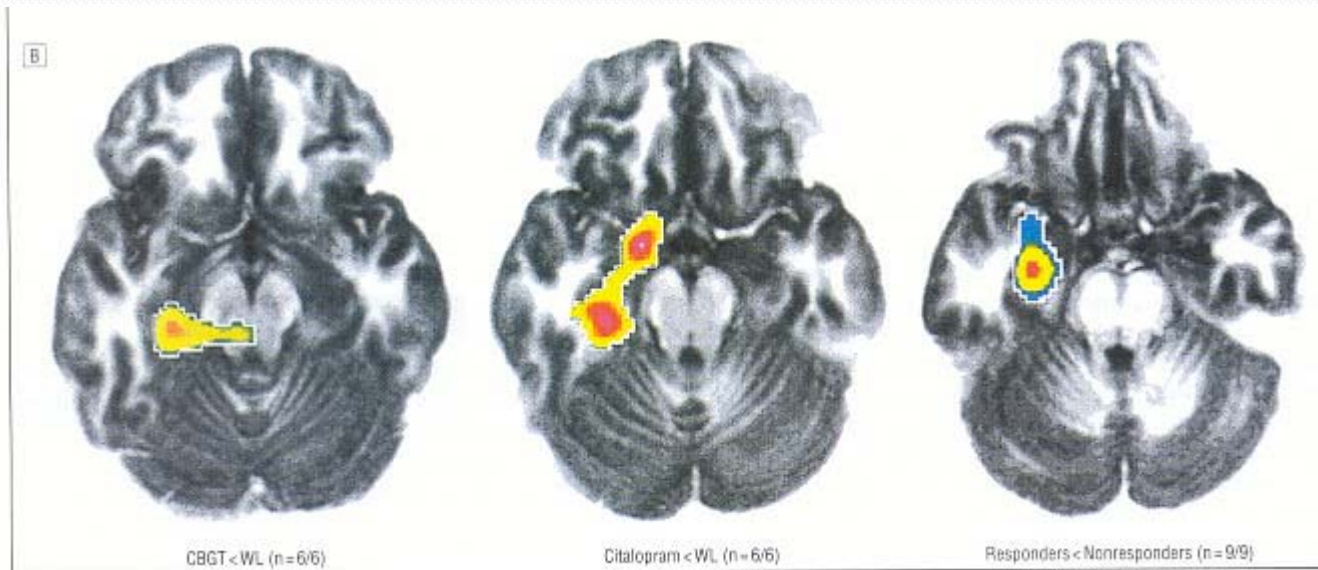
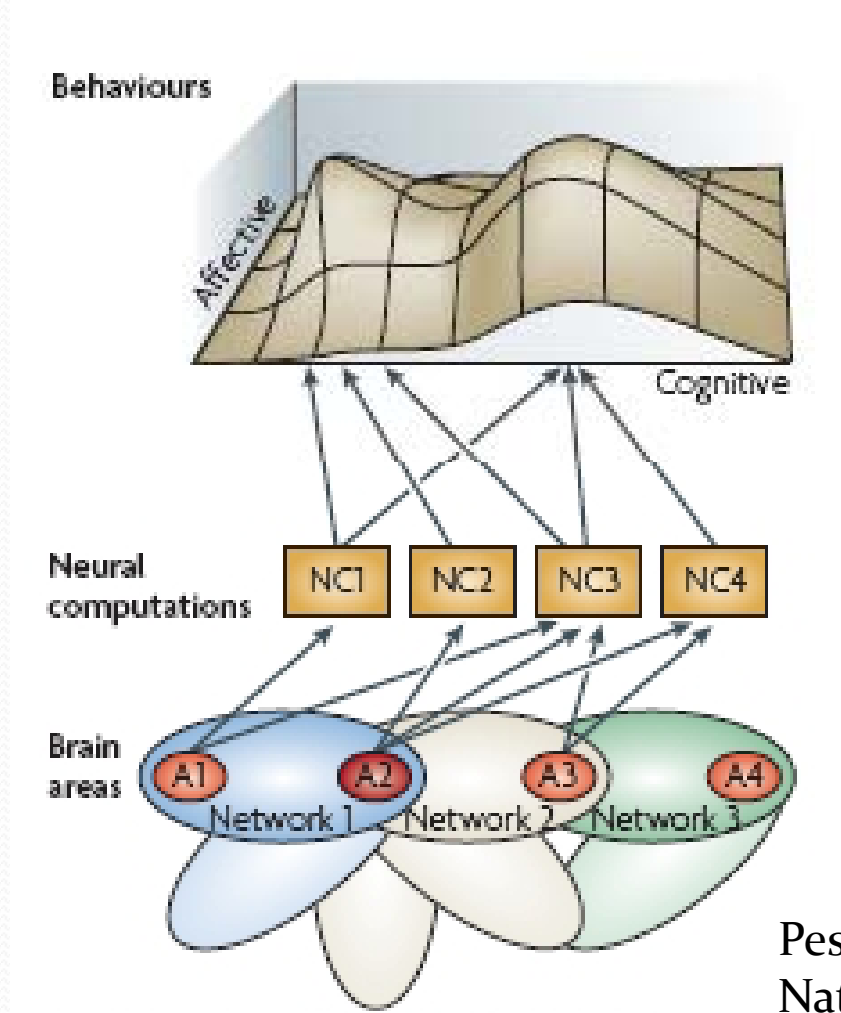


Figure 2. A, Transverse positron emission tomographic images, superimposed on a magnetic resonance reference image, showing significant decreases in the regional cerebral blood flow response to an anxiogenic public speaking task as a function of cognitive-behavioral group therapy (CBGT; left) or citalopram treatment (middle), and for responders regardless of treatment approach (right). Points of neural convergence were observed in the amygdala, hippocampus, and surrounding temporal cortical regions. B, Corresponding between-group differences in the amount of change in regional cerebral blood flow with treatment. Images show a greater reduction in the neural response to public speaking in CBGT relative to the waiting-list (WL) group (left), citalopram relative to the WL group (middle), and responders relative to nonresponders (right).

Some recent lines of reasoning



Pessoa
Nat Rev Neurosc 2008; 9: 148-158

Philosophy bypassed ?

