

Neurology and Psychiatry Interface

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Reports no relationships with ineligible
companies.

Topics

- Pithiatism, hysteria, and functional neurological disease
- Movement disorders: tics, OCD and related disorders
- Epilepsy: the “interictal” personality
- Nociception, pain and suffering
- Cognitive disorders

Pithiatism

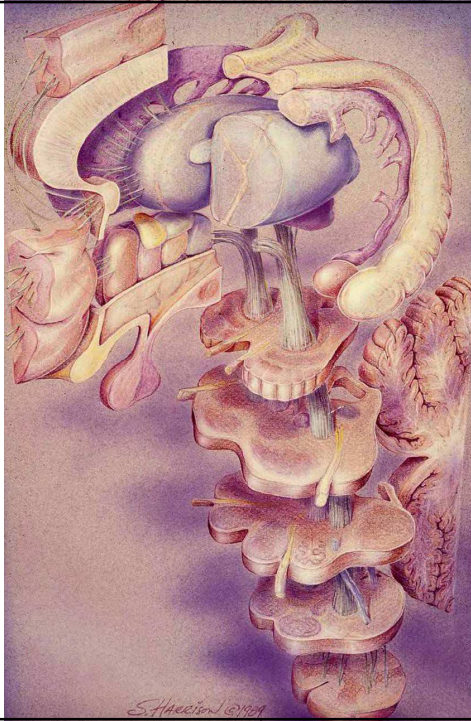
- Hysteria: the Hippocratic school
- Conversion: Freud
- Dissociation: Spiegel
- Psychogenic: Stigmatizing
- Functional: Euphemistic
- Pithiatism (caused by suggestion and cured by persuasion):
Babinski

Movement Disorders

- Too Little
 - Paralysis
 - Bradykinesia
 - Rigidity
- Too much
 - Involuntary: fibrillation, fasciculation (cramp), myoclonus/asterixis; chorea/ballism, dystonia/athetosis; akathisia
 - Semivoluntary
 - Tics (relationship to OCD and iron deficiency)
 - Voluntary
 - Will: the capacity to initiate and act or thought
 - Agency: willingness to accept responsibility for an act or thought

Epilepsy

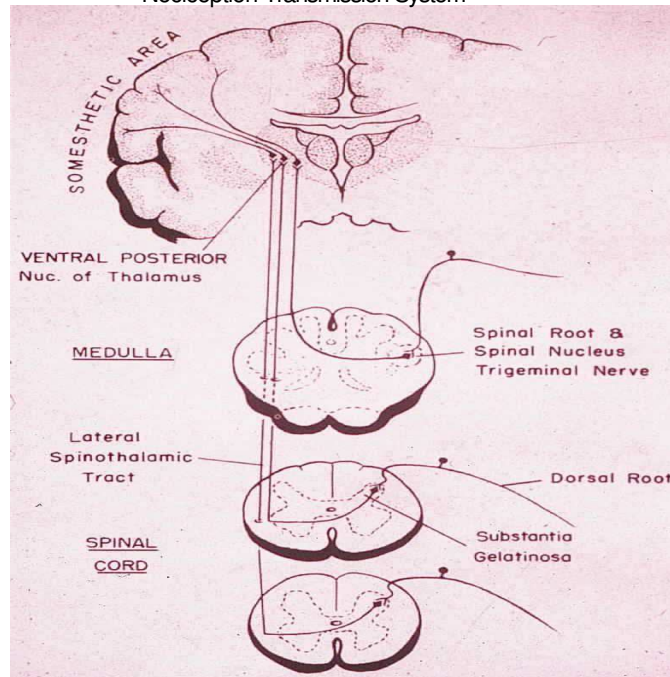
- Seizure: hypersynchrony of a group of neurons in the cerebral cortex
- Epilepsy: recurrent unprovoked seizures
 - Primary generalized
 - Focal (partial)
 - Affecting consciousness (complex)
 - Without effects on consciousness (simple)
 - * Ictal phenomena
 - * Interictal phenomena
 - Religiosity
 - Hyposexuality
 - Hypergraphia
 - Social viscosity



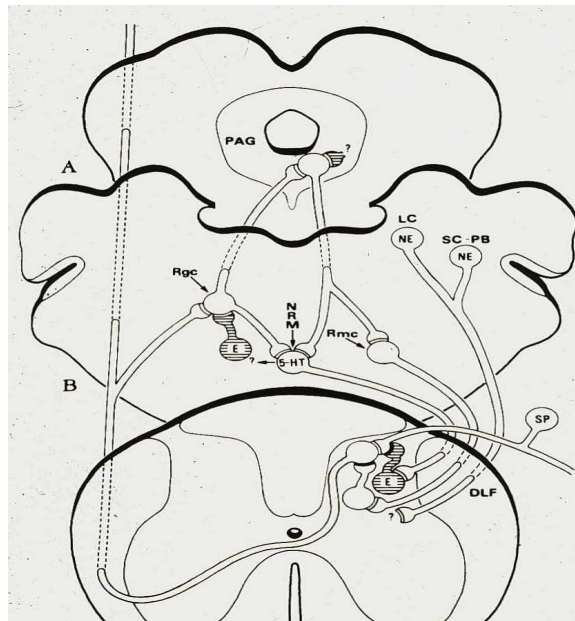
Nociception, Pain and Suffering

- Nociception: the capacity to sense a potentially tissue damaging (noxious) stimulus – peripheral nervous system, spinal cord and brainstem
- Pain: Discomfort caused by injury - thalamus
- Suffering: The experience of undergoing pain, hardship or distress - cortex

Nociception Transmission System



Descending Nociception Modulation System



Tachyphylaxis, Tolerance and Addiction

- **Tachyphylaxis** is said to occur when increasing doses of a drug no longer produce greater effects.
- **Tolerance** means that, over time, increasing doses of the drug are required to produce an equivalent effect.
- **Addiction** implies a craving or obsession

The Key Question

Are we treating nociception, pain or suffering?

Treatment

Treat the Root Cause

- Nociception: NSAIDs, nerve blocks, gate theory-based treatments, opioids
 - Examples: fracture, cancer pain
- Pain: alter inputs into thalamus with tricyclics, SNRIs, AEDs, GABA agonists
 - Examples: thalamic stroke; brain tumor
- Suffering: psychotherapy, ACT, CBT, exercise; social interventions
 - Examples: depression, abuse, anxiety; poverty

N.B. If suffering is due to pain, treat pain; if pain is due to nociception, treat nociception

Neurodegenerative Diseases

Categorization Schemes

Clinical

- Cognitive disorders
- Movement disorders
- Neuromuscular disorders

Research

- Amyloidopathies
- Tauopathies
- Ubiquitinopathies
- Synucleinopathies
- Prionopathies

Cognitive Disorders and the Folded Protein Hypothesis of Degenerative Diseases

- Disorders of consciousness
 - Disorders of attention (causes are metabolic and toxic)
 - Confusion: inability to maintain a coherent stream of thought or action
 - Delirium: confusion + sympathetic overactivity (e.g., tachycardia, diaphoresis)
- Degenerative dementias
 - Amyloidopathies (eg Alzheimer)
 - Synucleinopathies (eg Parkinson)
 - Ubiquitinopathies (eg Motor neuron-dementia)
 - Tauopathies: (eg PSP; FTD; Pick; CBD; CTE)
 - Prionopathies (eg Creutzfeldt-Jakob)