

Carlos Morra and Mateo Kreiker: General Psychopathology

**10. Thomas A. Ban: General Psychopathology**

**Seminar 3. Disorders of the Psychosensory Path**

GENERAL PSYCHOPATHOLOGY

For Residents in Psychiatry

Eight Seminars

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Thomas A. Ban, MD, FRCP(C)

Professor of Psychiatry

# DISORDERS OF THE PSYCHOSENSORY PATH

## Third Seminar

## DEVELOPMENT OF CONCEPTS

GRIESINGER	1843	Psychic reflex described
WERNICKE	1899	Psychic reflex adopted Psychosensory path - (sensory area) Intrapsychic path - (association area) Psychomotor path - (motor area)
JASPERS	1913	General Psychopathology (terminology)
NYIRO	1958	Terminology adopted (pathology) Sensation Perception Ideation

## CONCEPTUAL FRAMEWORK

In the development of "cognitive structure" (from "diffuse sensation" to "abstract ideas") differential inhibition plays a prominent role.

IDEATION - ABSTRACT

Differential Inhibition

IDEATION – CONCRETE

Differential inhibition

IMAGE FORMATION

Differential inhibition

DIFFERENTIATED PERCEPTION

Differential inhibition

DIFFUSE SENSATION

## MORPHOLOGY OF SENSATION

"Primary phenomenon is the sensation produced by an impulse conducted by sensory nerves from external and internal world to CNS."

The primary sensory center is modality specific:

visual	along the calcarine fissure in occipital lobe (Brodmann 17)
auditory	Heschl gyrus in the temporal lobe (Brodmann 41 & 42)
somatosensory	postcentral gyrus in parietal lobe (Brodmann 1, 2 & 3)

## PATHOLOGY OF SENSATION

**CHANGES IN INTENSITY**

Hyperesthesia	hyperacusis	depression
Hypoesthesia	hypoacusis	delirium
Anesthesia	conversion	hysteria

**SHIFTS IN QUALITY**

Xanthopsia	yellow	treatment with "santonin"
Chloropsia	green	toxic substance
Erythropsia	red	pre-retinal vitreous hemorrhage

**ALTERATIONS IN SPATIAL FORM**

Dysmegalopsia		delirium
		or
Macropsia	object seen larger	temporal lobe lesion
		or
Micropsia	object seen smaller	retinal disease
Porropsia	object seen farther	

**OTHER PATHOLOGY**

sensation of color with musical note	Concomitant perception normal (Franz Liszt) or schizophrenia	Splitting of perception  mescaline or schizophrenia
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## MORPHOLOGY OF PERCEPTION

"...perceptions arise when new sensations activate traces of similar former sensations... the excitation induced by the sensation becomes restricted (differentially inhibited) ..."

"...content of perception is determined by the characteristics of the object, that through the sense organs/acts on parietal, temporal and/or occipital analyzers of the brain ..."

## PATHOLOGY OF PERCEPTION

Esquirol (1838) subdivided false perceptions into

1. **ILLUSIONS**                      distortion or misinterpretation of a real perception
2. **HALLUCINATIONS**            perceptual experience without corresponding stimulus in the environment

## ILLUSIONS

"in all illusions stimuli from a perceived object are combined with a mental image and all illusions are perceptions which are transpositions and distortions of real sensations..."

Illusions usually result from:

<b>INATTENTIVENESS</b>	overlooking a misprint	normal subjects
<b>AFFECT</b>	mistaking a tree trunk or a rock for a human when walking alone in woods	normal subjects
<b>FATIGUE</b>	pareidolia -- sees vivid pictures in fire	normal subjects
<b>ILLNESS</b>	fantastic illusions -- sees the head of a pig instead of his/her own head in mirror	schizophrenic patients

## HALLUCINATIONS: TRUE vs. PSEUDO

Perceptual Experiences without Corresponding Stimuli in the Environment

**TRUE**

Appears as Concrete Reality

Has Character of Objectivity

Appears in External Objective  
Space

Cannot Be Distinguished from  
Real Perception

Cannot Be Controlled Voluntarily

**PSEUDO (PALE)**

Does not Appear as Concrete Reality

Has Character of Subjectivity

Appears in Inner Subjective Space

Can Be Distinguished from Real  
Perception

Can Be Controlled Voluntarily  
to some Extent

**PALE**

Griesinger  
Baillarger  
Kahlbaum

1845  
1846  
1866

**PSEUDO**

Hagen  
Kandinski  
Jaspers

1868  
1885  
1913

**HALLUCINATIONS: SENSORY MODALITIES**

<b>AUDITORY</b>	Akoasmas (elementary)	Functional psychoses Organic
	Phonemes (voices)	Functional psychoses Organic
<b>VISUAL</b>	Photomes (elementary)	psychoses
	Scenic (elaborate)	Alcoholic delirium/schizophrenia
	Autoscopic (self)	Epileptic aura
	Extracampine (outside visual field)	Functional psychoses
<b>OLFACTORY/GUSTATORY</b>		Organic psychoses
		Temporal lobe epilepsy
		Schizophrenic subtypes
		Depressive subtypes
<b>VESTIBULAR</b>	Flying through air	Acute organic states (delirium tremens)
	Sinking through the bed	Normal subjects
<b>COENESTHETIC</b>	Formication (animals crawling)	Cocaine psychosis
	Sexual	Hypochondriacal depression
	Phantom Limb	Hypochondriacal paraphrenia Eccentric hebephrenia/ Amputees

## HALLUCINATORY SYNDROMES

<b>CONFUSIONAL HALLUCINOSIS</b>	prominent visual hallucinations with clouded consciousness
<b>SELF-REFERENCE HALLUCINOSIS</b>	voices are talking about him/her, but cannot reproduce content
<b>VERBAL- HALLUCINOSIS</b>	voices are talking about him/her and can reproduce content
<b>FANTASTIC HALLUCINOSIS</b>	hallucinations with impossible content

## HALLUCINATIONS: NORMALS vs. PSYCHOTICS

**NORMALS**

Phantom Limb (amputees)  
Hypnagogic (going to sleep)  
Hypnopompic (awakening from sleep)

**PSYCHOTICS**

Catatonic Schizophrenia	Command
Paraphrenic Schizophrenia	Fantastic

## RESPONSE TO HALLUCINATIONS

DELIRIOUS PATIENTS	Feel terrified
DEPRESSED PATIENTS	Not bothered
PHONEMIC PARAPHRENICS	Troubled by abusive content
HYPOCHONDRIACAL PARAPHRENICS	Troubled by hearing voices
INCOHERENT PARAPHRENICS	Interact with voices

## MORPHOLOGICAL SUBSTRATE OF HALLUCINATIONS

<b>AUDITORY</b>	Stimulation of first temporal convolution on both sides
<b>VISUAL</b>	Stimulation of visual projection areas in the walls of calcarine fissure (Brodman areas 17, 18 and 19)
<b>TACTILE</b>	Stimulation of parietal cortex and adjacent subcortical area
<b>GUSTATORY</b>	Stimulation in the depth of the Sylvian fissure around the transverse temporal gyrus
<b>MULTISENSORY (WITHOUT COENESTHESIAS)</b>	Temporal lobe epilepsy (somatic sensory area is separated from temporal lobe by Sylvian fissure)