Ch1-2

PSB3002

# Chapter 1: Introduction

#### Introduction: What is Behavioral Neuroscience?

#### Biological Explanations of Behavior

#### Applications of Behavioral Neuroscience

#### Understanding Human Consciousness]

#### Natural Selection and Evolution

#### Ethical Issues in Research with Animals

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# Understanding Human Consciousness

### The Problem of Mind/Brain/Behavior Relations.

* **Dualism**:
  + Body is physical but mind is not; mind and brain are separate but interacting

“Pineal gland is the seat of the soul” (Descartes, 1649)

]

* *Problem*]: *How does an immaterial mind influence a material brain?* ]

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# Understanding Human Consciousness

### The Problem of Mind/Brain/Behavior Relations.

* **Monism**: the world consists only of matter and energy and conscious experience is part of it; consciousness is really activity of the brain ]

“Men ought to know that from nothing else but the brain come joys, delights, laughter and sports, sorrows, griefs, despondency, and lamentations” (Hippocrates, 460-370 BCE) ]

name: 1-2-7 layout: true

# Understanding Human Consciousness

### Continuing Challenges.

* **Easy Problem**:
  + Identification of which brain activity relates to which experience or behavior ]
* **Hard Problem**:
  + *Does consciousness emerge from brain activity, and if so - how does this occur?* ]

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# Understanding Human Consciousness

### Split Brain.

* Surgical transection of corpus callosum to control seizures ]

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# Understanding Human Consciousness

### Wilder Penfield.

* Electrically stimulated brain sites during surgical ablations (removing epileptic foci)
* Occasionally, stimulation evoked visual or auditory hallucinations ]

“Whoa! That was a good one! Try it, Hobbs - Just poke his brain right where my finger is.” ]